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The transition to blended learning:
Students' perceptions of online interaction

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M.Ed, PG Cert, MPBsS

Thesis Submitted for the award of Doctor of Education (EdD) within the field
of education, the Open University. October 2019

Abstract

This thesis investigates the problem of low student interest and interaction in online synchronous and asynchronous activity during a transitional phase to blended learning. The key research question investigated how students' experience of blended learning might inform practice, in order to improve students' participation in online interaction. The participants were a self-selected sample of 581 students aged 19 to 73 years and predominately woman students. This sample was obtained from 13 regions of The Open University across the UK from students who had studied two undergraduate psychology modules at The Open University during the transition in 2012 to a blended learning tuition strategy. A mixed-methods case study design was employed, composed of an adapted version the Course Experience Questionnaire originally designed by Ramsden (1991). This instrument consisted of 37 questions exploring students' perceptions of the introduction of blended learning into their respective modules, further modified with the addition of a 'tick-box' media survey and an expandable window for students to offer open comments on their experience. Factor analysis was applied to the two sets of quantitative data and thematic analysis to the qualitative data set, employing a convergent design. The findings from the three data sets complemented each other to represent the students' perspectives on blended learning which served to reveal areas of students' learning and interaction that did not comfortably align with theoretical ideas and expectations regarding blended learning provision, suggesting a social constructivist theoretical explanation to account for this disjuncture. The findings draw attention to the pedagogy and design of blended learning that remain relevant in practice today. Enhancing the performance of curriculum design and delivery is suggested in order to further develop the blended learning experience of students. It is recommended that some reconceptualisation of the tutors' role should be considered. Further qualitative research to coalesce feedback from module designers, tutors and students on blended learning modules is also recommended.

Keywords: blended learning; student participation; pedagogy; mixed methods; higher education; module design.

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Chapter 1 Introduction

“I like the way I have the forum at my fingertips and can access them {the forums} anytime” (Participant 35, ED209)

A feature of the digital age is the widespread adoption of communication technologies in everyday life via the internet. In just under thirty years the internet has transformed communication systems and the world of communication technology predicts change will continue at a rapid rate (The New Media Consortium Horizon Report, 2017). In the case of education, the surge in the development of information and communication technology has provided students with immediate access to learning materials, as noted in the above quotation taken from the transcripts for this thesis. This student highlights the temporal and spatial benefits of digital learning. Communication technologies: a) provide access to the internet, wireless networks and other communication media that students can access, b) interact within virtual time and c) download onto devices such as mobile phones and tablets (Techterms, 2018). These examples of the freedoms afforded by technology suggest a positive development for students within higher education. However, the expectation that technology would transform and enhance education is yet to be realised, and so this research undertakes a case-study approach offering insights into the role of technology in students’ learning.

This thesis is a critical reflection on the students’ experiences of the introduction of blended learning into two distance learning psychology modules provided by The Open University (UK) in 2012 compared to the “distance travelled” over the duration of the thesis in 2019. Whilst the research field on blended learning continues to be buoyant and dynamic this thesis argues that there remains a need to consolidate findings and fine-tune practitioner understanding of student learning and the professional roles of educators in blended learning. Section 1.1 of this chapter (below) supplies a context to the study by considering the changes in higher education which have impacted practice: a) the demand for technological innovation, b) the widening of access to higher education and c) economic and policy factors. Whilst these change factors are beyond the scope and control of teaching practice, the importance of reflecting on top-down change in practice is

essential as such change impacts on teaching and learning in practice (Anderson & Zawacki-Richter, 2014). Digital technology has magnified human activity in many unexpected ways, arousing ambivalence and debate about the potential benefits and threats to tradition and social order within education and wider society (Lewin, 2016). The question of whether research in education should be evidence-based or value-based, or both, is also relevant, informed by the advent of the use of technology in teaching, which is changing ideas and expectations about learning (Biesta, 2010). Hence there is a need for practitioners to undertake continued reflection on changes within higher education in order to make informed decisions about their teaching. In this thesis I focus on how students who were part-way through their studies on an undergraduate programme of psychology responded to the transition to blended learning provision with the creation of the option to participate in online interactional learning spaces in addition or as a replacement for face-to-face tutorial events.

1.1 Change in higher education

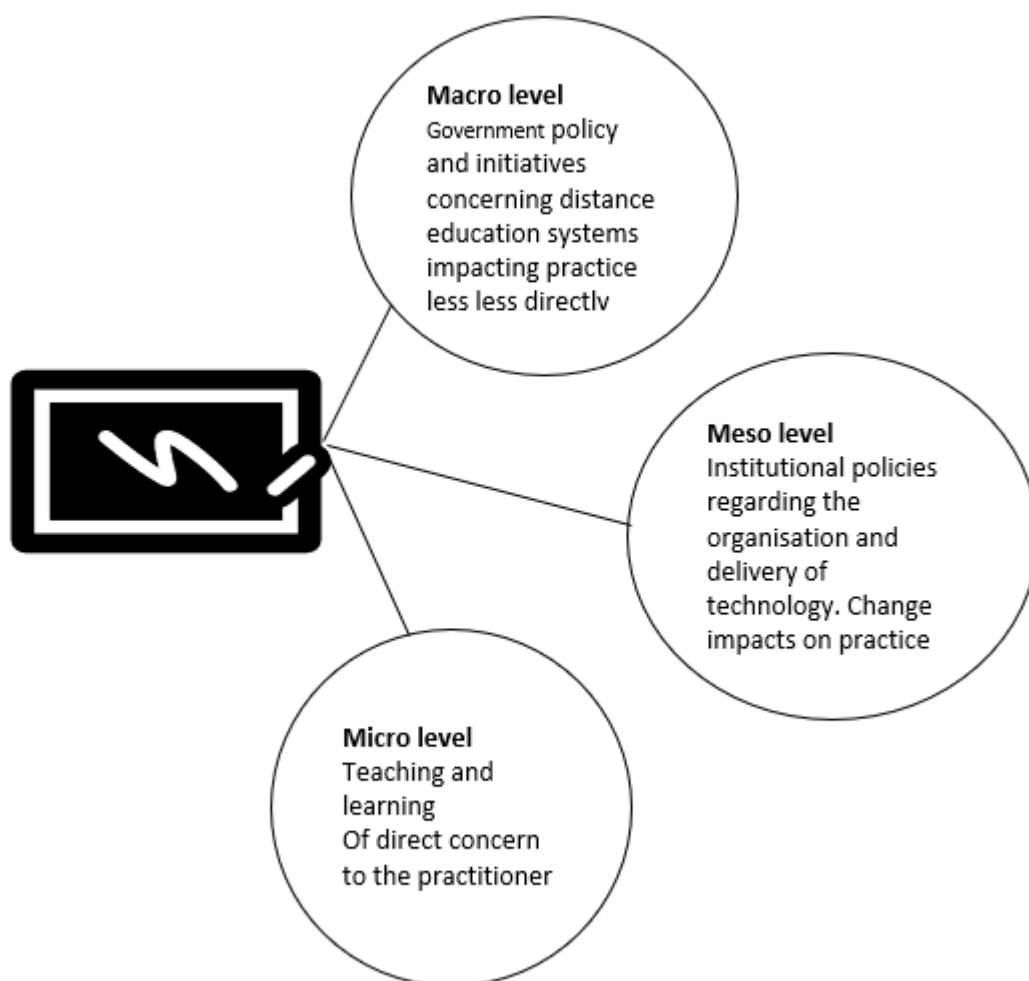
Whenever change occurs in any organisation it is unlikely that the trajectory of change will occur in the way predicted or intended, due to the complex nature of large organisations such as universities (Mason, 2016b). In the last three decades, higher education has experienced at least three key changes: a) the shift to the marketing model of higher education, b) the integration of information and learning technology and c) finally the increased number of students entering higher education (Brown & Carasso, 2013). Thus, it would be unlikely that the practice of teaching and learning would be static, given the enormity of change within higher education. Reflection on and in practice is a vital part of the educational practitioner's role, with different models proposed over time (Kolb & Kolb, 2005; Schön, 2017). Whilst various definitions of reflective practice exist, the fullest definition should encompass practitioner reflexivity, and the positioning of practice in social and cultural change: "The key is how well-or effectively reflective practice is done (or taught). Does it embody professional artistry, encourage critical self-aware evaluation and embrace transformation and change?" (Finlay, 2008, p. 20).

Clearly, to Finlay (2008), reflective practice is more than a focus on one's teaching at the micro-level of practice (Figure 1.1) but also needs to encompass practitioner awareness of broader technological change at the meso and macro levels; a notion supported by those engaged in the development of technology in education (Conole, et al., 2007; Jones, 2015;

Anderson & Zawacki-Richter, 2014). The integration of information technology into higher education has evoked a surge of research into this area, thereby acknowledging the complexity of the delivery of learning as well as suggesting reflective awareness is needed by the practitioner as change directly affects practice.

Figure 1.1

Three levels of influence on practice in distance education (Anderson & Zawacki-Richter (2014 p. 4)



At the macro level (Figure 1.1), from the 1980s onwards there was strong expectation from policy makers, technological innovators and the government in the UK that technology would transform the way teaching was and is delivered across the education sector (Lewis & Goodison, 2004; Dearing, 1997; Glenafrich Ltd., 2005 for the Higher Education Funding Council). It was suggested government investment and commitment to developing technology was being driven by the threat of global

competition for ‘e-learners’ (an earlier term for learning assisted by technology) and the wish to position the UK at the forefront of this development (Brindley, 2011; Cooke, 2008).

By 2012 in the UK the main distance learning provider was The Open University, with 88% of undergraduate distance learning students being affiliated to the Open University and 10% of campus-based students studying in this mode (Garrett, 2015). Since then provision across the higher education sector has adopted flexible patterns in semester timetabling, modularisation and technological delivery, with some shift to online learning but some reduction in part-time enrolments. By 2017 The Open University accounted for 65% of all distance learning, and other institutions 35% (Universities UK, 2018).

Another factor at the macro level affecting the ‘market’ for higher education was the shift from one of elite provision to one of widening participation in higher education, termed the ‘massification’ of learning (Teichler, 1998). Whilst globalisation and the ‘massification’ of provision are not of direct concern to this thesis, market driven factors continue to impact on universities and filter down to day-to-day teaching, with some researchers reporting negative effects on the overall quality of learning for students (Giannakis & Bullivant, 2016).

Increased student numbers in the UK have resulted in a broader social demographic entering higher education, including: a) those students without any family history of higher education, b) older students, c) students with learning or physical disabilities, d) single-parent students; profiles often associated with part-time distance learners (Gaskell & Mills, 2014). This widely disparate demographic has been frequently grouped together under the convenient but ill-conceived term: “non-traditional students”(Trowler, 2015). Distance learning is also attractive to a broader social demographic for a variety of employment-related, personal or convenience reasons. Teaching may become more challenging due to the lack of student acculturation into higher-level learning; an issue first noted and addressed by Bruffee (1984). The nature of the student body, and the mode of delivery, may continue to change within the UK (Foley, Middleton & Fribbance, 2015). Thus, there is a need for practitioner engagement in understanding change in what has been termed the ‘Third Industrial Revolution’ by social commentators and researchers, to develop teaching skills in a changing environment (Liu & Grusky, 2013).

The integration of technology into higher education as a learning ‘blend’ has been controversial. Claims that technology in education will enhance and transform learning have been confidently advanced (Higher Education Academy 2009; Joint Information and Skills Committee (JISC), 2011; Higher Education Funding Council, 2009). On the other hand there is disquiet, with critics arguing that the shift to the use of technology in learning has not been driven by educational rationale for change, but instead relates to the increased ‘marketisation’ of higher education for political and economic reasons; a move which impacts negatively on the quality of higher education (Brown & Carasso, 2013; Collini, 2012; Giroux, 2014). The power of technology to transform and enhance students’ education was a rhetoric promoted by the UK government in the last decade, but which was slow to show any advance in practice (Kirkwood & Price, 2014). The proposal of enhanced learning is critiqued with the suggestion that this rhetoric hides the structural changes underpinning the adoption of technology in education; perhaps cost saving for example, something practitioners should be questioning rather than promoting (Bayne, 2015).

Hence, political influence and direction cannot be separated from intellectual life. Some academics argue that the shift to the neo-liberalism narrative in the West has usurped universities in their role as being the intellectual body questioning the status quo (Biesta, 2010; Bayne, 2015; Giroux, 2014; Saunders, 2015). Today the purpose of higher education is argued to be skills development rather than intellectual development, with undergraduate studies related to upskilling the workforce and hence contributing to the economic growth of a country (Collini, 2012; Hornsby & Osman, 2014). Other commentators perceive that technology can have a positive effect on wider society, disrupting traditional hierarchies and power-bases within society, providing access to knowledge for greater numbers of people through the opening up of virtual communication (Moskal, Dziuban & Hartman, 2013).

The focus on the development of digital skills within the education sector continues to be at the forefront of UK government policy. Evidence for this position is seen in a mission statement from JISC (2017, paragraph 2), which states that the purpose of digital education is “to enable people in higher education, further education, and skills in the UK to perform at the forefront of international practice by exploiting fully the possibilities of

modern digital empowerment, content and connectivity” implying a continued shift to digital-skills development in young people.

The identification of some of these positive and negative claims about the use of technology in higher education indicates that change in the learning context is externally led, with the expectation that teaching and learning will adapt to change. The general projections are that distance learning will expand, although a mixed and shifting scene is emerging. In the UK, as well as globally, it is difficult to estimate the numbers of students undertaking distance learning, due to the rise of massive open online courses (MOOCs) being freely available (Lawton & Katsomitros, 2012). Networked learning, the term used to describe MOOCs’ development was predicted to be a threat to more orthodox university provision (Siemens, 2005). Other countries, such as the USA and Australia, have large cohorts of students studying at a distance; often purely online rather than via blended study (Lawton & Katsomitros, 2012). This brief account suggests that technology in education shows different trends and patterns, at least in the Western hemisphere, and practitioners might need to be mindful that educational provision using and relying on technology in the future is likely to have even greater impact on the practice of teaching and learning. Thus, it became apparent to me that when change does not occur as anticipated, which in this case-study was the students’ response to technology-based provision, reflection on and even interrogation of beliefs about practice become necessary.

1.2 The setting and context of this thesis

The setting of this study is The Open University, currently the largest provider of part-time distance learning in the UK and concerns my role as an associate lecturer within this organisation. An open-access policy has been a constant feature of The Open University since its inception in 1969; from which date it has taught 2 million students (The Open University Digital Archive, 2018). Distance learning has been a feature in the UK since 1894 and over time has employed a variety of media to convey information to students, from paper-based to online tutorials, as in the case of the oldest distance correspondence provider in the UK: Wolsey Hall, Oxford (2019). In the contemporary sense, distance learning is defined as “institution-based, formal education where the learning group is separated, and where interactive telecommunications systems are used to connect the learners, resources, and instructors’ using a range of different technological devices” (Schlosser & Simonson, 2006, p. 5).

Distance learning has a history of providing ‘open access’ to learning in different social and physical contexts compared to traditional provision. In fact, Nelson Mandela studied for a law degree at Wolsey Hall whilst in solitary confinement in Roben Island jail (Wolsey Hall, Oxford, 2019). The provision of higher education in mixed-mode formats has featured highly in The Open University’s history of teaching delivery, changing from postal correspondence augmented by television and radio broadcasts to modular delivery utilising a range of computer-mediated technology housed in a Virtual Learning Environment (VLE) (The Open University Digital Archive, 2018). Today The Open University continues to offer open access to what might be claimed to be the widest demographic possible in higher education, from well-known public figures and celebrities to those in prison. Over 1,400 people in prison have studied with The Open University, supporting the vision of being “open to people, places, methods and ideas” (Open University, 2016, website mission statement). The Open University is also the largest provider of education for people with disability in the UK (The Open University 2019).

The Senate at The Open University is the body responsible for conducting the academic and research functions of the university (The Open University 2019b). In recent years, The Open University has undergone major change in organisation. At the time of this thesis, 13 regional administration centres existed across the UK now replaced by four key regions. All undergraduate provision is modular and module credits align with the points system accredited by the University and College Admissions Service (UCAS 2018). Modules at The Open University are provided on or part-time basis being 60 credits per year, or full time, 120 credits per year. Students can change from part-time to full-time or reverse with the minimum time being three years to complete an undergraduate programme and a flexible end point allowing degree completion for students who experience unpredicted disruption to study (The Open University 2019a). Study can also be suspended according to student’s personal decision; hence it can be seen that this type of delivery is advantageous to certain student typologies. Student enrolment to modules has three key access dates to study: October and February and April.

All modules are delivered in varying composite design via a VLE, some modules have retained face-to-face tutorial provision in addition to online forums and tutorials, other modules are exclusively online delivery. The VLE is defined as “a virtual classroom that allows teachers and students to communicate with each other online” (Techterms,

2018, para 1). Virtual environments offer students and staff much more than a storage and exchange system for materials and continue to evolve for example The Open University has in the past employed as platform provision on their VLE; “Elluminate”, “Open Live” and more recently “Adobe Connect”. The management information system is incorporated within the VLE and also provides a ‘wrap around’ experience to include student access to libraries, career advice and direct contact with student services; thereby replicating some of the facilities of the physical campus. Additionally, the availability of recorded lectures and podcasts is further evidence of flexibility in learning. Management systems have evolved within The Open University as in many other universities to provide closer monitoring and tracking of students’ engagement with online learning activities and identify student vulnerable to non-completion.

Within The Open University tutors who are employed to manage students’ learning are referred to as ‘associate lecturers’ and are often subject-based specialists, responsible for setting up a working relationship with the students new to each module and clarifying how the teaching and learning is conducted. Tutors facilitate the students’ learning by providing extensive feedback on marked work, and provide tutorials, either face-to-face and/or online tutorials. Students take part voluntarily in tutorials (or tutorial activities) and therefore may never meet their tutors ‘face-to-face’ or online. A reflective and proactive approach to teaching is encouraged. Tutors often have primary or secondary employment elsewhere, working from their home base, and are the main point of contact a student has with their ‘parent’ university. Whilst the role of the tutor is central to assessment marking and support, students also have access to a wide range of study support teams that may be accessed via the VLE, involving services such as: a) librarians, b) study support, c) career development and d) peer-support. I have used the term ‘tutor’ throughout this thesis, defined as ‘a university teacher supervising the studies or welfare of assigned undergraduates (Oxford dictionary, 2019) to mostly replace the range of terms used within the literature for example; lecturer, facilitator, instructor, teacher.

The participants in this study were from two student cohorts who were undertaking the study of psychology in the academic year 2012, with the end completion date unique to each student due to the flexibility of an Open University undergraduate programme. Both cohorts experienced the introduction of online tutorial provision as a voluntary alternate tutorial option to face-to-face tutorials, with the expectation that students would welcome this opportunity for a more convenient learning experience and engagement with peers and

tutors. At the time of data collection many students used Facebook, Twitter and Skype to communicate with fellow students, leading to an assumption that students would readily engage with technology in their formal learning, a prediction that failed to emerge in my own and colleagues' experience. Although there has been a massive upsurge in the use of technology that people, particular a younger demographic use to organise their lives and to communicate socially within society, low student participation continues to be problematic in formal learning where blended learning interaction is offered to students in 2019.

The blended learning model examined in this research is the design used from 2010 to 2013 for two psychology modules. The module encoded ED209 'Childhood' was within the Faculty of Education and Language Studies. The second module encoded DSE212 (Exploring Psychology) was within the Faculty of Social Sciences. These two modules were delivered to students studying at Level 2 of undergraduate study between February 2011 to October 2011 and were worth 60 university UCAS points (UCAS, 2018). Students could choose to complete one or even two 60 credit modules per year to match the full-time equivalent of 120 points per academic year. At the commencement of this thesis, most of the coursework was submitted electronically, and the final 'unseen' examination taken at a regionally appointed venue. Students are expected to devote 15 hours to self-study and the choice of attending around 16 hours face-to-face tutorials or online equivalent over a nine-month period. The newly created asynchronous and synchronous tutorials options were in addition to face-to-face options. All types of tutorials were non-compulsory, a situation still in place today.

Online provision was integrated into both modules through the availability of three types of online forum: tutor, cluster, and nationwide. Every tutor had access to, and management of, an asynchronous (i.e. time-delayed tutor-student interaction) tutor group forum on ED209 (but not DSE212), for the personal use of each tutor group. For module DSE212, asynchronous interaction was provided via cluster forums, whereby larger cohorts of students could interact within their region, managed by a regionally appointed moderator. Additionally, tutors and students on DSE212 had access to a wiki to facilitate learning. ED209 had a nationwide asynchronous forum moderated by one tutor. Synchronous or 'live' tutorials were provided in most of the regions by staff appointed to undertake this on ED209.

Most tutors in 2012 were in the initial stages of developing skills to manage asynchronous threads and synchronous tutorials; the latter being optional and voluntary for tutors on DSE212 and delivered by internally appointed moderators on ED209. Whilst each region had slightly different formats in the availability of forum choice, all students had access to one form or another. All staff and students had a personal blog. It was unclear why different modes of delivery were chosen by course teams, although tutors were encouraged to experiment with the several types of provision. Asynchronous tutorials can be utilised for a range of functions in learning, ranging from: a) focused analysis of a topic, b) assessment support or c) general message interchange (Bonk, Graham, Cross & Moore, 2012). Tutors varied in the way they utilised their personal forums, although they were chiefly used to message students, transfer tutorial materials from face-to-face sessions and potentially as a space to encourage written dialogue on aspects relating to assignments.

1.3 Rationale and Aims

In this thesis I was predominantly interested in how students were experiencing the online aspects of inter-personal interaction within the context of the broader aspects of students' blended learning experience. The use of technology in teaching seemed to be an inevitable and logical consequence within higher education, given that to access the internet via the latest hand-held technology was becoming the norm for most of the population. 86% of adults in the UK were reported to have accessed the internet at some point in a three-month period (The Office of National Statistics, 2014). Thus, these positive trends suggested that a smooth and confident transition to blended learning for Open University students was likely to occur. I had presumed that the provision of forums and 'live' online tutorials was to provide a point of virtual contact whereby students could adopt collaborative interaction and develop critical thinking skills suggested by prominent theorists in the pedagogy of blended learning (Garrison & Kanuka, 2004; Vaughan Cleveland-Innes & Garrison, 2013). Students generally struggle with critical and analytical writing so this seemed an ideal opportunity to enhance critical thinking skills within students Clifton (2011). I had perhaps incorrectly assumed students would find digitalised learning more convenient and suited to their contemporary experience with younger students in my cohorts referred to as the 'iPod generation' or 'generation Y' (Quadri, et al., 2007). On the other hand, in most module presentations the face-to-face tutorial attendance was never a full count of students and there was always a small percentage of students who were difficult to

engage, and with whom hardly any contact was made despite tutor-initiated phone calls, so these students would be unlikely to engage online.

Informal discussion with students indicated anxiety and concern about the skills needed to manage a change to learning that students either felt unprepared for or did not want, although other students expressed the desire to improve their engagement in online working. This wish for autonomy in study is unsurprising, given that research on adult distance learning shows that students' preference for choosing distance learning relates to the freedom of choice this study medium offers. In the USA, the flexibility of distance learning proved attractive to adult students, who appreciated the lack of ties to specific timetables or venues because the materials alone provide all they needed for self-study (Xu & Jaggars, 2014). Disparate attitudes to technology in learning did not seem to be confined to Open University students and in my work at a campus university, young students who were studying to become teachers were reluctant to collaborate on wikis or the VLE. Colleagues at that time were generally ambivalent to technological development in teaching, both at the Open University and those associated with my campus-based role. However, one or two enthusiasts talked about similar experiences and concerns.

An initial scoping of literature on blended learning via education abstracts was undertaken using various combinations of key words and revealed that historically the literature outlined how to develop and deliver blended learning in the form of various models (Salmon, 2000; Salmon, 2004; Garrison & Kanuka, 2004; Garrison & Vaughan, 2008). Studies focusing on distance learning indicated that the lack of student engagement in collaborative blended learning was problematic and negatively affected not just individual students but also learning within that student's academic group (Bell, 2009; Skinner, 2009). A study synthesising findings for the Higher Education Academy indicated that the integration of interactive blended learning was not as simple as curriculum designers had initially imagined (Price & Kirkwood, 2011). An argument for a separate pedagogy for technology-integrated teaching was also evident, supporting the need for practitioner research to investigate this matter (Kirkwood & Price, 2008, 2012).

In the light of this early scoping of the literature, I had considered the topic of student engagement in their learning; an area of increasing concern in higher education with the advent of larger student enrolments (Trowler & Trowler, 2010; Trowler, 2015). However, the students within my tutor group were engaged in their module materials and

coursework, so could not be reasonably classified as ‘disengaged students’. Studies on ‘students’ satisfaction with their experience of higher education’ were also an emerging topic in the literature. However, I had not noted actual dissatisfaction with the module materials, tutor delivery or general learning from the end of module evaluations in my own student groups, although these data never amounted to much more than a 10 percent response rate. My topic area was therefore shifting towards students’ perceptions, attitudes and experience of the transition to blended learning. Thus, this became the focus and rationale for undertaking this thesis.

Initially, my intention was to carry out a small-scale qualitative study that engaged students and colleagues in either interviews or a focus group. Following a pilot study of interviews with five colleagues, which provided their views on blended learning, but did not provide information regarding the students’ participation or practice. Therefore, the decision was made to focus on the students’ experience, with the proviso of keeping the study focused and manageable. The data I obtained from this early scoping of literature and colleagues’ feedback, suggested an element of uncertainty existed about the impact technological change was having on student learning. Hence the aim of this study was to find out from the students themselves, how they view or experience the transition to the opportunity to participate in online interaction.

The following objectives were decided:

- To determine whether the lack of student participation in blended learning was a “local” practice issue or more systemic issue within the Open University, hence the decision to undertake a large-scale survey
- To obtain feedback from students on their views of online interaction using a qualitative approach whereby experiences were recounted in as natural way as possible.

Survey research has been the method of choice in the social sciences for gleaning attitudes from participants. Typically responses are gained from Likert type scales whereby participants respond to a series of statements on scale of “strongly agree” rated 5 points to “strongly disagree” rated at 1 point and then the statements are collapsed into a single

overarching attitude numerically expressed and statistically viable (Likert, 1932). With regard to the appraisal of student experiences and perceptions of their course-based learning, research existed that was based on, and informed by, large-scale surveys of campus-based students' attitudes to course experiences; commonly referred to as course experience questionnaire (CEQ). The original CEQ was developed in the UK and modified versions of the questionnaire have been used in the UK, Australia, and other countries to assess the academic quality of degree programmes (Ramsden, 1991; Wilson, Lizzio & Ramsden, 1997). The CEQ had also been trialled on distance-based students and has formed the basis for contemporary analysis of students' experience in the annual National Students Survey in England and Wales (Ashby, Richardson & Woodley, (2011). Therefore, a foundation in research existed on which further knowledge could be built and extended. (For an historical overview of the application of the CEQ in various stages of modification see Richardson 2009a). This research tool seemed a fruitful approach to take for this thesis to generalise findings, rather than to focus narrowly on my own practice and students.

While surveys offer the opportunity to explore experiences widely, surveys portray trends and patterns in data rather than richer detail and information (Lawless & Richardson, 2004). At this point the idea of modifying the CEQ to include an opportunity for students to comment on their blended learning experience seemed an ideal way to capture a nuanced account of students' experiences and perceptions of online interaction. A short survey 'tick box' survey was added to determine where students preferred to undertake social interaction, as many students were accessing Facebook for interaction, a potential factor impacting on formal online interaction.

Chapter Two outlines the literature pertaining to the direct and indirect influences on students' online interaction. This is summarised in the provision of the conceptual framework for this thesis, whereby the analysis of the literature suggests that different expectations regarding students' approaches to blended learning are present, derived from a range of information within society and academic, therefore a "social constructivist" framework underpins this thesis (Maréchal, 2012). Constructivist ideas explain the theory of learning, emerging from the theories of Mead, Dewey, and Piaget. Although various definitions of constructivism exist, there is agreement that an individual's construction of knowledge depends on both individual and collective understandings, social backgrounds and cultural attitudes. The question of whether a shared and fully objective reality of the

world exists is an ongoing philosophical debate (Chung & Hyland, 2011). Teaching draws on Constructivist theory to develop principles for practice: That students need to be actively engaged in their learning, and the need to be exposed to multiple perspectives and shared dialogue to produce effective learning (Anderson, 2016). Social constructivists focus on the “scaffolding” of students’ learning which can be offered by human and non-humans, whereby the greater knowledge of human or technological agents supports the acquisition of skills or knowledge in the learner, based on the Vygotskian principle of the “zone of proximal development” (Anderson, 2016). This thesis focuses on students’ experiences of the transition to technologically aided learning, exploring how the students perceive this affordance, whereby human agents can be accessed in an interactional space to ‘scaffold’ students learning. Hence this thesis adopts social constructivism as a theoretical framework.

A mixed methods design was decided upon to meet the aim of this thesis: to explore students’ experience of online interaction in an evolving education context leading to the key research question: **Can information regarding students’ experiences of blended learning help to inform practice?** Two sub questions were derived from the key research question and objectives for this thesis:

- 1) How do students perceive online interaction? (Qualitative)
- 2) Has blended learning provision influenced students’ experience of their learning? (Quantitative)

1.4 Definitions of blended learning

An early scoping of the literature revealed that the terminology used to express the integration of technology into education is prone to change over time and different meaning attributed in different countries calling for a need to standardise and agree terminology in order to calibrate research in this area (Moore, Dickson-Deane & Galyen, 2011; Gunn & Steel, 2012; Halverson et al., 2014; Zawacki-Richter & Anderson, 2014). Blended learning is also referred to as hybrid, e-learning, E-learning, or technology enhanced learning (Kirkwood & Price, 2014). More recently ‘mixed modality’ or ‘flipped classrooms’ are versions of blended learning (Auster, 2016).

One early definition encompassing most aspects of the various components of technology-based blended learning is suggested by Bluic, Goodyear and Ellis (2007p. 234): “blended learning describes learning activities that involve a systematic combination of co-present (face-to-face) interactions and technology mediated interactions between students, teachers, and learning resources”. Three key elements are noted in this definition a) the explicit presence of face-to-face interaction interspersed with b) variation in the choice of the technological and media mix, and finally c) varied delivery options.

Distance learning when fully online with no face-to-face interaction is termed ‘online learning’ but when interspersed with some face-to-face interaction ranging from as little as 12% to 75% this is termed blended learning (Bernard et al., 2004; Hrastinski, 2019). The students in this study were experiencing blended learning provided ‘at distance’ rather than purely ‘online’ distance learning, For the purpose of this thesis the following meaning is attached to the various types of delivery:

- Blended learning: A mix of face-to-face tutorials and online synchronous and asynchronous activity can be campus or distance provision.
- Online learning: No face-to-face provision, purely online delivery of all teaching and peer-to-peer interaction.
- Distance learning: Any provision of learning via the internet, can be purely online learning or blended learning.
- Digital learning: includes learning via websites, mobiles, eBooks, social media and online communities, online lectures, webinars, podcasts and microblogging.
- Online skills and online interaction are terms used in thesis and are related to any skills or interpersonal interaction undertaken online and include peer-to-peer interaction and tutor to student (s) interaction.

1.5 Structure of the thesis

In summary of Chapter one, the focus of this study is broadly at the micro and meso level of practice, as the macro levels of investigation are beyond the scope of this thesis (Anderson & Zawacki-Richter, 2014). In this chapter, I have sought to contextualise the practice issue under investigation within the broader scope of the technological, political, and demographic changes affecting higher education. The aim of this thesis is to explore the practice problem of low participation of students in their voluntary online interaction to address the research questions identified in the previous section.

The literature reviewed in Chapter two identifies some key relevant points in relation to addressing the practice problem of low or no participation of students in the online interactive elements of blended learning provision and considers: the relationship of blended learning to theories of students' learning, the assumptions regarding students' use of technology, research on how the transitions to blended learning has been experienced by students and finally the pedagogy and design of blended learning. Emerging from the literature review and my own perspective on the shift to blended learning was the notion that different expectations exist about the nature and function of online interaction for the various parties involved in teaching and learning within higher education. This is conceptualised at the close of Chapter two as a constellation of different expectations at the micro, meso and macro levels (Anderson & Zawacki-Richter, 2014).

Chapter three justifies the methodological approach employed in this thesis outlining the research positioning, and research design, which is a case study using a convergent design, mixed methods approach (Creswell & Plano Clark, 2011). For reasons argued in the Chapter, the ontological and epistemological framework for this thesis is Pragmatism as this accommodates the idea that people have single and multiple views of reality, and data can be collected by "what works" in relation to addressing the research question and complements the social constructivist theoretical framework of this thesis (Creswell & Plano Clark, 2011 p. 42). Mixed methods research combines the strengths and minimises the weaknesses of both methods in research with several different authors identifying that pragmatism is the most appropriate "world view" to adopt in mixed methods research (Teddlie & Tashkkoori 2012). The overarching theoretical framing of this thesis is a social constructivist perspective (Kim, 2001).

Chapter four provides an account of the analysis and findings of the quantitative and qualitative elements, combining the overall findings to summarise where students were in their attempts to manage the change to blended learning in 2012. Chapter five discusses the findings from 2012 reflecting onto the ‘distance travelled’ over the duration of this thesis, focusing on how students’ participation in their learning relates not only to tutors’ roles but also to module design. Whilst the research field on blended learning continues to be buoyant and dynamic there is a need to consolidate findings and finely-tune practitioner understanding of student learning the online elements of blended learning. Chapter six concludes with a reflection on the thesis as a whole and offers recommendations.

Chapter 2 Literature Review

2.1 Introduction

Chapter two describes the approach to the literature review presented in this thesis. The literature on blended learning was substantial at the commencement of this thesis and has continued to grow as various issues arise from the blended implementation of blended learning across the university sector. The literature was perused for factors likely to influence students' online interaction hence the following sections provide an account of the key approach to the literature review in Section 2.2. Section 2.3 evaluates blended learning noting the more contentious areas of blended learning prone to different definitions and assumptions about students' readiness to adapt to blended learning. As the focus of this thesis concerns the response of students to their experience and perceptions of blended learning interaction, Section 2.4 reflects on research examining how students have responded to the transition to blended learning within higher education. Section 2.5 and 2.6 highlights some of the key issues relating to the pedagogy of blended learning at the micro and meso levels of practice and learning design for blended learning. This chapter closes with a summary of the literature reviewed here, and conceptual framework to this thesis linking the literature reviewed to the theoretical framework and a suggestion of the research design to address the research question.

2.2 Literature search

The literature produced on blended learning is extensive with information from the Education Resources Information Centre (ERIC) database showing that 1,827 articles and papers were deposited on the topic of blended learning in higher education from 2010 to 2015. Google Scholar™, shows 102,000 articles and research papers available in the same period. Given the wealth of research on blended learning it was not feasible to supply a comprehensive review of blended learning literature, so initially I limited my search to dates from 2006 to 2012. This limit allowed me to obtain an overview of some of the key research areas in blended learning relating to student learning and teaching practice previous to, and simultaneously with my data collection. In the choice of key words to drive the search I consulted the thesaurus feature of ERIC which identified the broader terms for blended learning as '*teaching methods*' and the other terms that might be used: a)

'*blended degrees*', b) '*blended instruction*', and c) '*hybrid learning*'. Another 15 related terms were presented, of these '*distance education*', '*computer assisted instruction*' and '*online courses*' were also explored. Additional key words '*students*' '*higher education*', '*participation*', '*perceptions*', '*teaching*', '*attitudes*' '*evaluation*', '*models*' '*collaborative learning*' and '*pedagogy*' in Boolean AND / OR combinations to filter results were also used. Other key words used were '*distance learning*', '*tutoring*', '*facilitating*' and *open learning*. An iterative process was also ongoing, working from reference lists located in the chosen articles.

The term pedagogy is used in this thesis rather than andragogy (devised by Knowles, 1978) or heutagogy, which describes adults' learning with technology (Ashton & Elliott, 2007; Canning, 2010). Searches in ERIC and Google Scholar using the term 'andragogy' or 'heutogogy' revealed limited material, and the term pedagogy is dominant in the literature within higher education to describe praxis in students aged 18 years and above. The concept of heutagogy as a sufficient or warranted replacement for pedagogy has been questioned (Adams, 2014). Additionally, I did not want to confine the search to adult distance learning as The Open University has increasing numbers of students under the age of 25 years. I also included the experience of campus-based students: a) to aid broader understanding of how students across the university sector had responded to blended learning and b) to develop generalisability of the study.

The key databases used via the Open University library (2019) were: a) Academic Search Complete, b) Educational Research Abstracts, c) Science Direct, d) ProQuest, e) ERIC for archived materials and f) the British Education Index. The Open Research Online (oro. open) depository was also accessed. I intended to focus on the experiences in the UK university sector, although both Australia and the USA had developed a strong research foundation on blended learning. Therefore, some literature from these two countries was included, as well as from others within the Pacific Rim (Pacific Rim Countries, 2019); a region where blended learning has also been developed. I also signed up for various accounts to keep updated; for example, JSTOR (2018), ResearchGate and EDUCAUSE (2019), as well as accessing a variety of relevant journals relating to higher education and technology.

The literature search revealed much in the way of 'grey literature', such as conference papers and articles on blended learning. Much of this literature focused on the

potential of digital learning, rather than practice concerns, and so an emphasis was placed on empirical practice-based research when selecting or rejecting literature. The review of the literature progressed in three key phases during the compilation of this thesis as follows: an initial focus on the keyword combinations noted above, a second phase focusing on the history of student learning providing a foil to reflect on blended learning and blended learning design. A later phase, 2018 to 2019, focused on recent developments in the pedagogy of blended learning to compare what had changed over time with regards to student participation in blended learning.

2.3 Blended learning debates

The literature review revealed that a certain amount of controversy has grown around the development of blended learning, particularly with regard to the benefits and pedagogy as this area has been the focus of research for at least two decades with several key texts on the topic (Laurillard, 2002; Garrison & Vaughan, 2008; Garrison, 2011; Salmon, 2000, 2004; Salmon & Wright, 2014; Bonk, Graham, Cross & Moore, 2006, 2012; MacDonald, 2008; Bates, 2011; Picciano, Dziuban & Graham, 2013). Several arguments are proposed in favour of blended learning, one being that this was a new type of pedagogy in that it offers a broader scope for learning design, for example lectures can be pre-recorded and re-used (Rose and Ray, 2011). Greater flexibility in learning activity for students is also possible as a substantial amount of learning activity is undertaken in the virtual space away from the lecture theatre or through distance learning texts (Conole, 2014a). The opportunity to collaborate with peers and discuss issues with lecturers is said to be another of the advantages of blended learning and a means to develop deeper learning, higher-order thinking, critical reflection and motivation to learn (Garrison, Anderson & Archer, 2000; Ginns & Ellis, 2007). Teaching can transit from a teacher-centred to student-centred focus in interactional virtual spaces, so enabling collaborative learning between student peers (Moskal et al., 2013).

2.3.1 Traditional v blended learning

If blended learning is advantageous to students' learning, then the evidence supporting this notion is likely to be present in research. Early research showed marginal gains in assessment credit for blended learning students, when compared to campus-based

traditional delivery of the curriculum, although early studies have been criticised for weak methodology and poor scholarship (Merisotis and Phipps, 1999). Richardson (2009b) carried out a series of large-scale surveys across different faculties within universities in order to compare campus-based face-to-face teaching with blended learning delivery. One example, the findings from a sample of humanities students indicated that once the effects of students' ages and educational attainment were controlled, no major differences in the students' learning experience was demonstrated between campus-based and distance learning. However, a need for staff training in the application of blended learning, together with the importance of pastoral support for students in the transition to blended learning with less tutor presence, was noted by Richardson.

The importance of pastoral support was noted in an Australian study where this helped to even out difference in the same curriculum delivery in different modes: a) campus-based face-to-face, b) distance, c) full or d) part-time mode. With pastoral support in situ for part-time distance learners no major differences in learning outcomes were evident between campus and distance-based provision (De George-Walker and O'Keefe, 2010). The finding in this study of no major difference to student learning when related to the mode of delivery is re-iterated in different studies over the last decade or so (Allen et al, 2002; MacDonald, 2008; Moore, 2012).

Concerns that blended learning might prove inferior to campus-based teaching have been addressed over time; several sets of meta-analyses have been applied to large-scale surveys, and on the contrary, confirm a slight advantage existed to students' grades for blended learning (Allen et al., 2002; Bernard et al., 2004; Tamin et al., 2011; Means et al., 2013). Commenting on the role of technology in blended learning Tamin et al., (2011), claimed the improved student performance found in their analysis related to the way the practitioner employed the technology, combined with both students' and environmental variables which together exerted a more powerful influence on learning than the technology by itself.

Whilst Tamim et al. (2011) did not show specific factors that might improve practice, their study suggested that the integration of technology into teaching requires careful exploration and analysis of teaching practice and student and this particular meta-analyses does not support the notion of a seamless transition to enhanced student learning. In recent decades the impetus for data-gathering relating to students' learning experiences

and their satisfaction with learning has increased dramatically. Growth is partly driven by the changes to the marketing model of education outlined in Chapter 1 above, and also the drive to improve quality by assessing the students' experience in their role as "consumers" of education, the monitoring of attrition rates and feedback into staff appraisal and development, although the latter function is under-used (Rickards and Stitt-Bergh, 2016). The use of student feedback as a measure of teaching quality is heavily criticised as this can bias tutors to provide higher grades, leading to accusations of grade inflation or negative feedback on teaching performance (Stroebe, 2016).

Various problems exist with an over-reliance on students' feedback about their learning and therefore caution is needed in data interpretation. Research has shown that students who complete surveys (termed Student Evaluation of Teaching or SETS), can be manipulated by subconscious prompts: such as including 'in-class' rewards with food (cookies) to bias students to favour lecturers, rather than students objectively commenting on teacher competency (Hessler et al. 2018). Concern about bias in student evaluation of teaching quality persists (Horstein, 2017; Uttl, White, & Gonzalez, 2017). Similarly, routine end of programme course evaluations of students' learning experience such as the CEQ may be influenced by poor motivation and attention to completion by students (Bassett et al., 2017). Response bias in all surveys has been noted (Richardson, 2012; Klemenčič & Chirikov, 2015). The inadequate quality of university administration for large-scale surveys, such as the National Union of Students' Survey, is also problematic in relation to accuracy of data (Lenton, 2015).

One major problem with large-scale surveys is that fine-tuned interaction cannot be observed or detail of how blended learning is organised. Some researchers avoid this issue by arguing that the pedagogy is unchanged in blended learning and technology is merely a replacement for other tools used to communicate; for example, the 'chalk and talk' method may not be familiar to many young people today (Higgins, 2016). Others question the fact that blended learning replaces traditional learning as no fixed definition of traditional learning exists and, in any case, learning and learning theory has changed over time and a lack of consensus regarding the precise meaning of blended learning in terms of what exactly *is* blended: a) the learning objects used, b) the planned learning activities of students and c) the time balance between online and face-to-face facilitation of learning (Oliver & Trigwell, 2005).

The focus on either the technological tools or the pedagogy is argued by some commentators to be misguided, proposing that a more appropriate phrase focusing on the students' learning is: '*learning with blended pedagogies*'; a concept theoretically underpinned by what is termed '*variation theory*' (Oliver and Trigwell, 2005). Variation theory is a theoretical proposition for exploring technological innovation and its impact on students. The theory's prime focus is not on tools or pedagogy but instead the space where learning occurs, offering potential for variation and exploration of learning in this changed learning context. Oliver and Trigwell (2005) did not develop this theory to any demonstrable extent, however it is worth noting that the use or none use of this interactional space is the key focus of this thesis.

If, as is the case in this thesis, students are not utilising this "new" space afforded by blended learning the question of the extent to which a change of mode in curriculum delivery influences student learning outcomes is worth deeper exploration. The suggestion that pedagogy and learning with technology is not the simple changeover predicted. Some community colleges in the USA, involving a similar demographic to students at the Open University, reported higher attrition rates and course failure for students undertaking online learning and distance learning courses, when compared to students who experienced traditional delivery (Jaggers & Xu, 2010; Xu & Jaggers, 2014). It is suggested that attrition rates increase when courses have transferred to purely online from blended learning delivery (Cochran, Campbell, Baker & Leeds, 2014; Cole, 2016; McDougall, 2019).

The evidence in this section regarding the impact of blended learning on students suggests a deeper and more reflective evaluation of the students' experience of learning should be aimed for in research using approaches that examine the varying facets of blended learning delivery, particularly as tutors have a lesser role to play in curriculum design and face-to-face contact between students and tutors is diminished. Various assumptions, expectations and debate relating to young people and technology within education and wider society exist; an issue which the following section explores.

2.3.2 Digital natives or varied tribes?

As noted in Chapter One, I had assumed that most students would be keen to engage with online learning and had not expected the reverse, as terms such as 'digital

natives' suggested the priming of students for online learning would be unnecessary (Oblinger & Oblinger, 2005). Mixed views are presented in the literature regarding students' preparedness for online interaction in their learning. Some research indicates that students vary widely in their ability to adapt to the academic use of information and communication technologies, and therefore should not be assumed to be digital natives (Hargittai, 2010; Jelfs & Richardson, 2013). Conversely, Harasim (2012, p. 80) confidently expressed the view that: "the current generation of youth has grown up collaborating using online technologies" and refers to youth as the net generation (Net Gen). The annual Eurostat update (2012, 2017), indicates that young Europeans aged 16 – 29 years, including the UK, spend increasing amounts of time interacting with digital media through video streams, chat rooms, blogs and social media; such users are likely to be at the forefront of adopting new technologies. However, technical competencies such as writing code in computer language or creating a web page were only demonstrated in under a quarter of young people questioned, although younger people have greater skills in this area than the average of populations (Kotzeva, 2015).

As far as students' perceptions of blended learning environments are concerned, in the early 2000s, mixed findings were presented. For example, Graff (2003) reported that individual differences among students serve to mediate students' satisfaction with the community aspect of blended learning. Rovai & Jordan (2004) found higher satisfaction with the sense of community on blended learning courses, when compared to face-to-face interactions. López-Pérez, Pérez-López & Rodríguez-Ariza (2011) reported reduced attrition rates and improved grading for students from higher socio-economic backgrounds when blended learning was integrated into the curriculum delivery process.

Research into students' perceptions of blended learning in recent years have centred on positive aspects of flexibility, cost reduction and convenience of blended learning, rather than the educational benefits of engaging in communities of learning with their peers and tutors (Graham et al., 2013; Henderson, et al., 2015). An ongoing study centrally funded by JISC, using a digital-tracker survey supplied to 74 higher, further, and online learning providers in the UK, provided a detailed breakdown of students' reactions to blended learning based on data from the 22,593 surveys completed by students. Students in the JISC survey were generally positive about digital learning across the education sectors, with ease of access to materials again being noted as a benefit of centrally organised VLEs (Newman & Beetham, 2017). The tangible benefits to organisation and

access provided by the VLE is also evident in other studies of young learners, where the critical factor for satisfaction was a well-designed blended learning system, enabling them to ‘keep on track’, whilst having the convenience of access to materials both on and off campus (Chen & Tat Yao, 2016; Henderson, Selwyn & Aston, 2017).

However, early research exploring the students’ experiences of blended learning also indicated students’ lack of technical competency, reported in a large JISC funded study over the period of time from 2005 – 2006, using qualitative data gathering tools (Creanor et al., 2008). This JISC study defined a need for clear induction and skilled teaching support for students who were new to blended or online learning, with similar points emphasised in other research (Osberg, 2013; Shea et al., 2014). Students’ preference for developing collegiate relationships via social media, such as Facebook, in preference to the formal university provision for collaborative work, was also remarked on in these studies (Creanor et al., 2008; Osberg, 2013).

The premise that students are confident in using technology in their blended learning is questioned in a study, similar to this thesis, but campus-based in the USA. It was noted that first year students had an increased range of new things to acclimatise to with the introduction of technology in learning, which some learners found overwhelming. The creation of various support strategies was the research outcome: a) the need for stress-management workshops, b) open office drop-ins for students, c) pro-activity in tutors to head-off student attrition, and e) an introductory computer course for all students containing an ‘early warning system’ for students who were struggling with computers. The use of multiple technologies was also a source of frustration for students who were not technically competent, and a pre-course online preparedness test recommended (Napier, Dekhane & Smith, 2011).

In the UK Prensky (2012) argued that whilst new undergraduates are digitally competent on phones and video games, this is not the case when tasked to produce a well-structured and defined Google search. Supporting this notion was a survey of 1,165 medical students assumed to be ‘digital-natives’. A lack of engagement with technology in their studies was noted, and interestingly connected strongly with the students’ perception of their lecturers’ use of technology in teaching and the promotion of technology generally on their programme (Thorell et al., 2015).

The issue of students and their acceptance of technology has also been an extensive area of review over several decades, with several models devised to explain the student interface with technology (Masrom, 2007; Schepers & Wetzels, 2007; Williams, Rana & Dwivedi, 2015). Abdullah & Ward (2016) provide a review of the literature via meta-analysis and their findings suggest that the best predictors of students' perceived ease of using e-learning systems (a different name for blended learning) were: a) self-efficacy, b) enjoyment, c) experience, d) level of computer anxiety and e) subjective norm (how they saw others use systems). The best predictors of perceived usefulness for e-learning systems were a) enjoyment, b) subjective norm, c) self-efficacy and d) experience. Abdullah and Ward's study emphasises the need for improving the confidence of online learners, the normalisation of such interactions, attractive visual presentation and enjoyment of the experience. One study identified that the key factors drawing students to Facebook were that it was a) 'rich' in usefulness regarding the three benefits of social interaction, relationships and networking, b) the web site design was highly attractive and easy to use which enhance users' convenience and finally c) it had perceived trustworthiness (Bannerjee & Dey, 2013).

The fact that The Open University students have a more varied demographic than the norm for university students might lead to a range of tutors' assumptions about digital skills. However, much depends on students' previous life experiences; for example: employment-related skills and study habits (Richardson & King, 1998). Research indicates that age itself does not appear to be a benchmark for the ability to manage digital learning and even young students may need to be introduced into digital literacy (Ng, 2012; Lai and Hong, 2015). However, preparedness or more particularly a lack thereof, to deal with blended learning may be a concern for adult learners, as the learning profiles of part-time students can be highly variable compared to mainstream university intakes. Research has indicated that some distance learning students may experience greater challenges in adapting to blended learning, due to multiple demands in their personal lives, when compared to campus-based students (Kirkwood, 2000 ; Kirkwood & Price, 2005; MacDonald, 2008; Taylor, 2015; Osam, Bergman & Cumberland, 2017). This finding was borne out in a study on the transition of provision from campus-based to blended learning for an adult-serving university in the USA. The demand for the students of being online at unbounded times proved an unexpected challenge and was difficult to manage for both students and tutors, compared to the previously fixed face-to-face interactions in their timetables (Korr et al., 2012). Today the need for all members of society to develop digital

literacy is frequently emphasised. The term ‘digital literacy’ encompasses a range of digital-related skills, with researchers pointing out that access to the internet is no measure of digital skills: “the capacity to use a computer has become an insufficient criterion to define the digitally literate” (Miranda, Isaias & Pifano, 2018, p. 72).

The literature featured in this section suggests that the transition to blended learning is prone to societal assumptions about students, informed by the correlation of youth and digital ability in higher education. Instead ‘tribes’ of varying abilities exist, presenting problems in participation that were perhaps unexpected by educators and policy makers. Therefore, it is important to re-examine the variables relating to student learning in higher education in the changing context of learning afforded by technology as this may help to clarify the factors likely to encourage or discourage student participation in the formal online interaction.

2.4 Transition to blended learning

The impact of technology in education was predicted to be “transformative” and even “disruptive” to the order of society outlined in Section 1.1. Instead a somewhat protracted development has occurred and, as noted in Section 2.3.1 the transition to blended learning from “traditional” learning has not been a seamless transition, raising questions regarding the conceptualisation of blended learning, and the assumptions about the technological capability of students’ in their academic learning. The literature suggests that there are certain areas of the student experience that practitioners need to be mindful of when students transit to blended learning and online interaction. Certain barriers may be present which work to prevent students from developing the skills needed for online interaction.

The notion that students themselves influence their learning via their approaches to their study and dispositions to learning is encapsulated in two models of student learning: ‘Student Approaches to Learning’ (SAL) and ‘Self-Regulated Learning’ (SRL) (Pintrich, 2004). Research utilising mainly large-scale surveys based on variations of the Course Experience Questionnaire (CEQ) over two decades ago, focused on distance learners, noted the presence of deep and surface learning strategies within students, as well as correlations between the quality of online teaching and student approaches to learning (Richardson, 2000, 2005; Price, Richardson & Jelfs, 2007; Ginns & Ellis 2007; Jelfs &

Richardson, 2013; Remedios & Richardson, 2013). However, none of these large-scale studies comment on the blend of face-to-face/online tuition that students received or to what extent the samples studied had experienced facilitative or collaborative learning. (Gašević et al., 2015).

Student dispositions related to the SRL model of explanation for student learning may exert even greater influence on blended learning than the SAL model. In a campus-based study Ellis, Ginns & Piggott (2009) reported that students with negative perceptions of blended learning fared poorly in online interactions, and their final grades suffered. Additionally, at least one-third of the students surveyed did not value peer contributions or perceive the value of interaction with tutors or the process of online facilitation of learning. Online learning seems to require a robust set of student attributes including positive emotions towards blended learning combined with high motivation and self-regulation in order to develop skills. Students who cannot match these attributes will avoid online learning (Tempelaar et al., 2012). Self-regulation is an important attribute correlated with deep student engagement and success in blended learning study (Cho & Shen, 2013; Shea et al., 2014). A large-scale study on the topic of student self-regulation in online learning (not blended) suggested the trait of self-regulation can be developed within students. and increased familiarity with online learning provides gains in online competence, higher grading and satisfaction with learning (Wang, Shannon & Ross, 2013).

Inadequate time management skills, or a lack of time, were noted to negatively affect academic study for all types of students, according to a meta-analysis of studies embracing the period 1997 - 2014 (Kim & Seo, 2015). Students who are new to blended learning may not have allowed enough time to develop their digital skills. Procrastination is also said to be a distraction which prevents affected students from focusing on their studies (Kim & Seo, 2015). Social media (e.g. YouTube, Facebook) and smartphone usage are reported as a distraction leading to procrastination for 25% of the students questioned in a large-scale survey of full and part-time distance students in Australia (Selwyn, 2016b). Indeed, there is a Facebook site dedicated to offer peer-support for students who are prone to procrastinate Time management does not always improve for students over the period of undergraduate study and workload issues continue to be cited as problematic due to the lack of recognition that intellectual demands increase year-on-year (Jones, Skinner & Leeds, 2014).

Given the benefits of blended learning to students, particularly grade improvement, as outlined in Section 2.3.1, taking part in forums and live tutorials could be helpful to students. However, various barriers to participation exist. One such barrier might be the need to develop social presence defined as: “the ability of participants in a community of inquiry to project their personal characteristics into the formal online community, thereby presenting themselves as real people” (Garrison et al., 2000, p. 89). It is beyond the scope of this thesis to include analysis of the many findings on the concepts of ‘social presence’ and ‘online identity’. However, research suggests that online presence is associated with successful blended learning outcomes for students and is further explored in Section 2.6.

The lack of online presence is identified in most universities by online tracking systems which show students who are virtually present, but who choose not to actively take part in either synchronous or asynchronous threads for a variety of reasons. The lack of student participation disrupts the collegiate intention of online tutorials as other students on the course feel such non-participants are gaining an unfair advantage and/or are not putting equal work into projects, as reported earlier in this thesis (Osberg, 2013). Failure to participate by students has raised the issue of whether practitioners should respond to or encourage change in students’ behaviour (Honeychurch et al., 2017; Smith & Smith, 2014). The findings of Honeychurch et al. (2017) suggested that rather than ‘pathologising’ peripheral behaviours, the academic community should appreciate that some ‘absent’ learners can and should be better supported in the hope that they might then be drawn in by the type of environment created. Smith and Smith (2014) noted the similar non-participatory peripheral behaviour of students for distance learners, but proposed that this might be the students’ preferred mode of learning at that point in time, the students in Smith and Smith’s study being 2nd year psychology students similar to the sample in this thesis. The question of whether or not online activities should be made obligatory in some instances is a difficult one, which will be revisited in Section 2.7, where the pedagogy of blended learning design is considered.

Other obstacles to collaborative learning experienced by students on campus blended learning are reportedly a) lack of collaborative skills, b) ‘free riding’ (social loafing), c) competence status, d) friendships could inhibit self-discipline and criticality, e) lack of academic knowledge, d) large classes, e) time constraints, and f) different personal learning styles (Le et al. 2018). Competence status may not be so marked in distance learning, as students do not have so much contact or knowledge of one another to make

judgements; however, online behaviours can highlight student competence and lack of social presence to the detriment of group work.

Social isolation and depression are also associated with distance learning in some of the literature (Wu, Tennyson & Hsia, 2012). However, loneliness is not correlated with low achievement in distance learning (Vakoufari, Aneglaki & Mavroidis, 2014). Looking at the specific feedback from the large sample of 22,593 online students in Newman and Beetham's (2017) study, 85% studied at home, 60% preferred independent study not involving group interaction, and only 15% stated they would like interactive learning. Such data suggest that some distance learners prefer to study alone, although they may not be fully aware of the benefits or rationale for participation in online discussion. Interestingly, a total of 75% of students accessed blended study, rather than campus-based study, due to physical limitations. However, Newman and Beetham also noted that a larger sample of students, including those with a disability, or a study informed by a deeper qualitative research model, would be essential to explore the reasons for those physical limitations.

The transition to blended learning was a notable challenge for first-year students in mixed-methods study undertaken comparing first year students' experiences of traditional delivery, blended learning and online learning. The online cohorts in this study reported that the diminished quality of learning, when using technology, was "too big a sacrifice for their own education and enjoyment to want to do it again" (Napier et al., 2011 p. 21). On the other hand, slightly better grade outcomes and attrition rates for blended learning were achieved compared to fully online students. The key areas of concern for the novice blended learning students in the Napier study (2011) were similar to those reported above: a) the need for increased self-discipline, b) lack of time management skills and c) the need for more investment of time outside the classroom, to enable individual skill development relating to technology use in learning. Difficulty in the transition to blended learning is not confined to undergraduate student and for post graduate students the difficulties forming barriers to online interaction were loneliness, difficulties with time management, technical issues, lack of input from other students or difficulty asking questions online, with the resulting disappointment leading to low participation in online collaborative activity (Adekola et al., 2017).

In comparison to campus-based blended learning, the nature of part-time blended distance learning brings the students' sense of self under closer self-scrutiny. One aspect

might relate to self-esteem, as students who return to study may have had less-than-satisfactory early experiences in education. Also, such students may have few academic qualifications, making them feel vulnerable or hypersensitive to participation. This issue is particularly pertinent to The Open University students who may be without a pre-qualification to study (Simpson, 2013). On mixed delivery campuses in Australia, part-time distance students wanted to feel as valued as campus-based students at their university (O'Shea, Stone, & Delahunty, 2015). The study of emotions in adult learners and blended learning shows that whilst social aspects are appreciated, anxiety and negativity towards blended learning require a supportive emotional climate to be created by tutors, (Zembylas, 2008; Robinson, 2013; Hu, 2017; McDougall, 2019; Griffin & Roy, 2019). Smith and Smith (2014) noted that feelings of insecurity were evoked by reading messages from students who seemed intellectually able, confident, and articulate, resulting in disincentive for some perhaps less skilled students to commit their thoughts to writing. Identity, too, comes to the fore in a static way via a student's comments when engaging on asynchronous forums in a way that does seem to have less impact in face-to-face situations, where the inept comment perhaps remains less noticed due to its impermanence, compared to written comments which others can see (Baxter and Haycock, 2014; Butcher and Rose-Adams, 2015).

The preference of students for interaction on social media is increasingly evident in the literature, with some academics acknowledging the integration of social media into students' learning, such as Google Communities (Young & Nichols, 2017) and Facebook (Kilis & Rapp, 2016; Chang & Lee, 2013; Lam, 2015; Henderson et al., 2017; Jan & Vlachopoulos, 2018). Peer interaction in formal learning was not popular with students and this was mirrored in research by Newman and Beetham (2017), with students preferring to use social media, but not for academic discussions. Smith (2016), in a thematic analysis of students' use of social media technologies, demonstrated that their responses to her question about social media in students' blended learning, formed an overarching theme of a of 'a real double-edged sword'. Social media technologies both informed and distracted students in their studies, with uncertainty within education regarding the role of social media in formal learning. Indeed, some campus and distance providers are integrating social media into module delivery or actively encouraging Facebook engagement (University College, London, 2019). However, such integration assumes that all students are comfortable with Facebook, and that the full implications of social media practice in

developing digital literacy in are unknown at present; issues which Smith (2016) suggests are areas to explore.

Thus, these findings suggest that blended learning although convenient to students has amplified some ‘known’ aspects of student learning in higher education, creating perhaps additional obstacles to students by the requirement to participate in online interaction. One key outcome from the shift to blended learning is that student participation in learning is easier to discern in formal online settings, whereas prior to technology low participation in lectures or seminars would not necessarily be noted by tutors or affect peer-learning. Blended learning delivery is perhaps more complex to experience for tutors and students compared to ‘traditional’ face-to-face learning due to the need to create online presences and adopt digital learning under the gaze of tutors and fellow students. How these changes in the learning context of higher education relate to pedagogy is considered in the next section.

2.5 Pedagogy and blended learning

Blended learning continues to be a burgeoning area for research but with only 13 percent of the top cited literature focused on theoretical models and frameworks, further research is necessary in order to aid clarity with regard to how blended learning functions in learning and enable cross-fertilisation of ideas (Halverson et al., 2014). Exploration of the proposed pedagogy regarding how blended learning operates, and its impact on student learning, may help to identify processes that might serve to hinder or prevent student participation in blended learning interaction.

Early conceptions of learning focused on factors within the student such as intelligence, cognitive ability, study skills ability, leading to a ‘top-down’ or instructivist approach. ‘Learning’, in the form of knowledge, was delivered to students by teaching staff; the lecture format still being a prime example in campus-based universities. Other theories embrace concepts such as the need for a more comprehensive approach to teaching, appreciating the growth potential and individuality of students conceptualised in the humanist approaches (Rogers, 1990). Learning itself has the potential to have a transformative effect, challenging a student’s understanding by encouraging critical reflection on one’s own assumptions about the world, and thereby provoking different perspectives on meanings and life (Mezirow, 1995). Illeris defined learning as “a process

that in living organisms leads to permanent capacity to change and which is not solely due to biological maturation or aging” (Illeris, 2018, p. 7). The conceptual model offered by Illeris (2018) includes the aforementioned theories and aligns with the shift to facilitative and holistic approaches to teaching, which are based upon *social* rather than individual learning. Hence, learning is founded on social interaction and contexts and is thus ‘socially constructed’ (Knezic, Wubbels, Elbers & Maaïke, 2010).

The pedagogy of blended learning has been subject to scrutiny, one issue often debated is the role and influence of tutors’ attitudes and beliefs in curriculum delivery. Blended learning design in teaching claims to afford greater opportunities for students to have an enhanced learning experience. For example, their learning style preference might be better addressed, as technological tools and associated learning activities can be aligned with theoretical positions to improve the learning experience (Dyke, et al., 2007). However, this alignment has yet to be empirically demonstrated. One of the suggested reasons in the literature for failure of ‘enhanced learning’ is related to teaching attitudes who tend to “teach as taught” and tutors have not adapted to digital teaching *en masse*. Other scholars agree, suggesting that the lack of enhancement to students’ learning relates to the failure of tutors to facilitate learning (Kirkwood & Price, 2013; Price & Kirkwood, 2014; Price, Kirkwood & Richardson, 2016).

The superiority of facilitative, rather than instructivist, teaching as a means to improve students’ learning and to engage them in their studies, was first claimed at least two decades ago, together with associated beliefs about students’ motivation and tutors’ beliefs about the curriculum (Kember & Kwan, 2000). In a naturalistic study exploring university lecturers’ conception of what good teaching is, and how such teaching relates to their mode of curriculum delivery, two main components and associated tutor beliefs were identified:

- *Content-centred delivery*, (also termed instructivist or didactic) whereby lecturers believe teaching is about the transmission of knowledge, the passing on of information and making things easier for students to comprehend. Beliefs are that the tutor holds knowledge, students are passive recipients.

- *Learner-centred delivery*, (also termed facilitative or student-centred) whereby lecturers conceptualise teaching as the facilitation of learning, with beliefs shifting the focus from lecturer-held knowledge to finding out what the students know already and building on students' needs in their learning, and encourage independence in learning via student-led activities (Kember & Kwan, 2000, p.475).

Kember and Kwan (2000) propose that lecturers' beliefs about teaching are relatively fixed, but can be modified by institutional beliefs about learning, the training of lecturers, and external pressures from students and contexts. For example, students attending part-time evening classes after a day's work may not be able to physically tolerate a three-hour lecture. Student-centred learning is a term liberally applied to a wide range of teaching approaches within education, for example: a) flexible learning, b) experiential learning and c) self-directed learning. Student-centred learning can also refer to the relational aspects of the student-tutor role; a situation in which power shifts from the 'all-knowing' tutor to a shared contribution of knowledge, recognising that students too come into education with knowledge and understanding of the world (O'Neill & McMahon, 2005 p.27).

Student-centred learning is complementary to blended learning delivery, particularly with the ease of access to information via the internet. The adoption of a student-learning approach in curriculum delivery accommodates greater variety and scope in the assessment of students' learning and is thought to improve students' participation and in their learning and enjoyment. Critics argue that a) students' beliefs about tutors, b) their understanding of their own roles in learning and c) power-structures within society can result in rejection of this approach. Likewise, tutors can feel threatened by their loss of power and authority (O'Neil & McMahon, 2005). In one of the periodic topic-based large-scale surveys distributed by the National Union of Students Survey, 50% of students identified they wanted greater interactivity in their learning, implying that students want facilitative rather than transmission-mode teaching (The National Student Survey, 2012).

However, there may be no clear causal relationship between beliefs and practice. Tutors' practice and beliefs are not always aligned and could "switch" mid-course delivery or be challenged during the delivery of a module (Scott, 2016; Nortvig, Petersen & Balle, 2018). Scott's (2016) qualitative longitudinal study tracked the delivery changes made by

six tutors new to blended learning, illustrating how tutors reflected on delivery strategies in relation to students' preferences. Tutors realised when their strategies for face-to-face did not transfer to online situations, causing them to change their beliefs mid-delivery when they perceived their strategies did not work. One example of such a change was the introduction of a quiz to 'force' student participation, even though this approach was dissonant to the tutor's belief in student-centred learning. The integration of blended learning has evoked a range of emotional factors for the tutors in this study, including stress, excitement and motivation to develop teaching through blended learning.

The transition to blended learning has increased the focus on pedagogy and practice as it is potentially 'visible' to all. Teaching practice is, as shown in Scott (2016), complicated by the affordances offered by technology. The literature suggests that tutors need to be encultured into online delivery via staff training and development (Porter, Graham, Bodily & Sanderg, 2016). Online identity and presence need to be developed (Garrison & Kanuka, 2004; Edwards, Perry & Janzen, 2011). The necessary shift in power relationships and roles involving tutors and students is also an area to be negotiated in blended learning (Youngblood, Trede & Di Corpo, 2001; Baran, Correia & Thompson, 2011). When learning shifts to online delivery, evidence suggests the tutor may become a key figure for students, particularly in reducing a student's sense of isolation in a distance learning context, when tutors are able to create a warm and empathetic learning environment during forums (Griffin & Roy, 2019; McDougal, 2019).

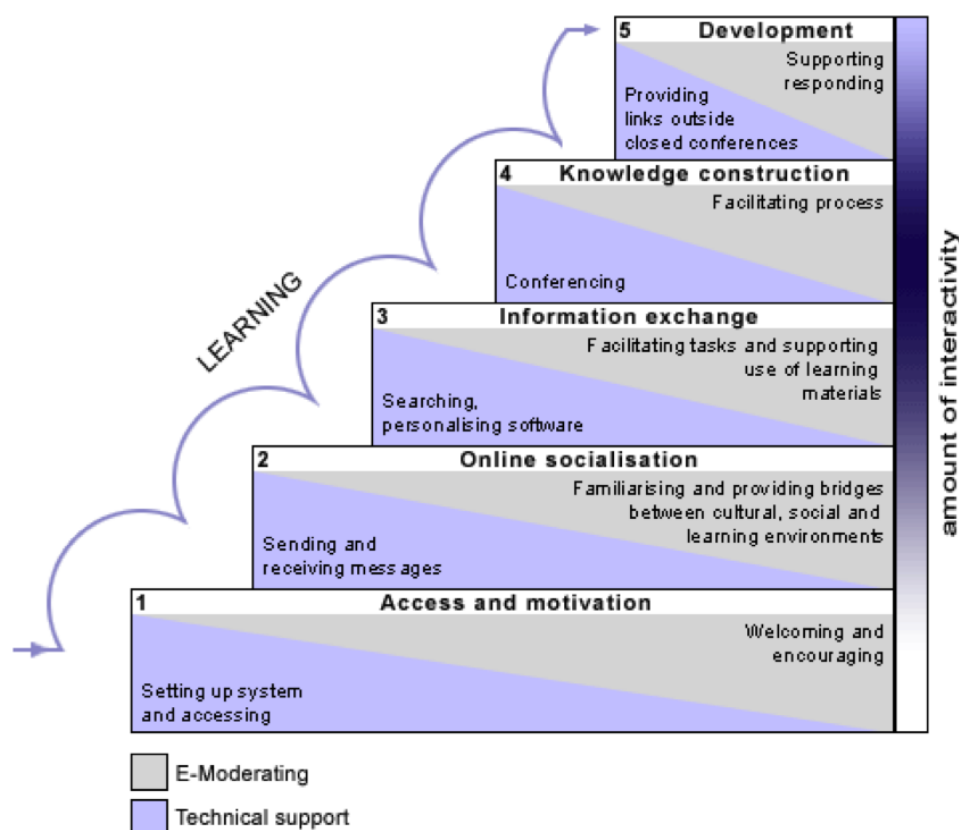
Collaborative learning is a central feature of blended learning, with the former being intended to foster criticality in student thinking (Garrison et al., 2000; Ginns & Ellis, 2007). An early definition of collaborative learning offers distinctive criteria; for example: "A theory of collaborative learning concerns these four items: criteria for defining the situation (symmetry, degree of division of labour), the interactions (e.g. symmetry, negotiability), processes (grounding, mutual modelling) and effects" (Dillenbourg, 1999 p. 13). Dillenbourg proposed that the relationship between the four criteria constitutes the fundamental aspect of collaboration and is one which should be focused upon in measuring how effective such learning has been. Although this suggestion seems on the surface to be a complex definition, it indicates that in practice there needs to be a clear outline of what students are expected to contribute to the interaction. Also required is an awareness within the tutor of where interactions are balanced (or not), how the ideas were reached or agreed, and finally an assessment of the tutor-peers interaction on students' learning. In the

literature multiple models of blended learning exist, all variations on the theme of systematic group discussion or writing, with the tutor/lecturer facilitating learning. However, it is suggested that in day-to-day practice, collaborative learning has seemingly become a commonly used term for group-based tutorials, even when the delivery is predominately instructivist and lacks Dillenbourg's features (Campbell, Gallen, Jones & Walshe, 2019).

As noted above, various models of blended learning exist which are useful as a starting point to consider factors relating to students' levels of interest to participate in online activity. One early model developed in the UK and The Open University is the Five-Stage Theory e-moderating model (Salmon, 2004, p. 28) presented in Figure 2.1 below. The key focus is on the role of the tutor-moderator and is based on the ability of tutors to be sensitive to the students' levels of learning (and possibly background, although not always available to tutors). The notion that students gain in confidence and skills' development as they experience blended learning situations, whilst facilitation by the tutor is being simultaneously reduced, is a key element in Salmon's theory. In Figure 2.1 the tutor's focus initially is setting the ambience of the group, then encouraging online socialisation. As students gain in confidence information exchange is facilitated, leading to the 4th stage of knowledge construction. Finally, the stage of 'development' is where students are expected to acquire and demonstrate self-directed learning skills. A strength of Salmon's model is that it builds on earlier proposed theories of learning (Vygotsky, 1978; Rogoff, 1990; Wass, Harland & Mercer, 2011). Salmon's (2004) model also takes account of the graded progression of learning identified in taxonomies of learning (Stålné, Kjellström & Utriainen, 2016). The model can also be adapted for synchronous and asynchronous teaching delivery. However, Salmon's model overlooks the internal dispositions of students, their individual learning requirements, and the social context of students. This latter issue addresses such points as: a) where students study, b) how they make online relationships, and c) future goals; all factors known to impact learning (Illeris, 2018).

Figure 2.1

E-moderating model (Salmon, 2004 p.28)



Salmon has made several revisions in her approach to the use of technology in higher education provision, recognising that this perspective involves a more complex area than originally conceived; a perception suggesting that in more recent years the integration of blended learning is embedded at the intuitional level rather than at the practice level (Salmon and Wright, 2014).

Few theoretical models of blended learning focus solely on asynchronous interaction. However, ‘online collaborative theory’ is one such model proposed by Harasim (2012). The interaction in the case of Harasim’s theory is based solely on students’ written efforts, so only one communication channel exists compared to the potential of synchronous tutorials. Harasim (2012) proposed three distinct phases of knowledge construction in online writing activity: a) idea generating: mind-storming to gather views, b) idea organising: students compare, contrast, analyse ideas via text, and c) intellectual convergence, when different views are aired, synthesised, agreed upon or otherwise, in order to reach what Harasim terms ‘the final position’.

Harasim proposed that online collaborative theory is an advance on other theories because students collaborate to construct new knowledge, and several advantages are proposed for asynchronous interaction: dynamic sub-threads can form multiple topic-related discussions with the option for students to reflect on comments. The learners can also develop higher level thinking, with the information being readily accessible to them, at times convenient for student learning. Discourse, collaboration, and ‘knowledge building’ are central to this theory, building on earlier theories of student learning: for example, conversational learning (Pask, 1976), knowledge development in students (Laurillard, 2002), and the conditions for deep learning (Enwistle, McCune & Hounsell, 2002).

Notwithstanding the time and energy needed to create such complex tasks, when this model was applied in a longitudinal study of master level students, despite grading awarded for participation in *both* the process and end product, this approach failed to draw students into engagement and online tutorials or to improve their work grades (Brindley, Walti & Blashke, 2009). Doubt was expressed that this sample of postgraduate students had the necessary skills to collaborate in the way theorists such as Harasim proposed. An additional problem was that the forum was an ‘add-on’, and not centrally integrated with learning and assessment or the many other preparatory steps for induction to group work that were needed for a successful initiative.

A qualitative case-study indicated that even when the task for two cohorts of undergraduate and postgraduate distance learning students was carefully planned, with a central focus on collaborative assessment and marks for task completion, students struggled with some key aspects of collaborative work (Macdonald, 2003). Although students were provided with ample support in developing their confidence to make comments to the group, students found the act and experience of peer-reviewing a challenge due to their lack of confidence and unfamiliarity with the task. Macdonald proposed that it was essential to link this type of collaborative task to an assignment, which was the case in Brindley et al.’s (2009) study and yet even so the variation in the commitment of students and the reliance on fellow students for grades was problematic.

The final exemplar model to be considered in this section is one that stresses the importance of dialogue and the management of online personas in the context of blended

learning. This ‘communities of inquiry’ (CoI) model emerged in the late 1990s. Aykol and Garrison’s (2011) paper was the top gold-star rated publication combining the model and theory with empirical data in the review by Halverson et al. (2014). The community of inquiry model had 560, 000 citations on Google Scholar in 2014. Initially evaluated by qualitative measures, the model was shown to be statistically valid in a series of studies (Arbaugh et al., 2008). A community of inquiry is defined as:

“An educational community of inquiry is a group of individuals who collaboratively engage in purposeful critical discourse and reflection to construct personal meaning and confirm mutual understanding. There is both independence and interaction (co-regulation) in a community of inquiry” (Garrison & Akyol, 2013, p.104).

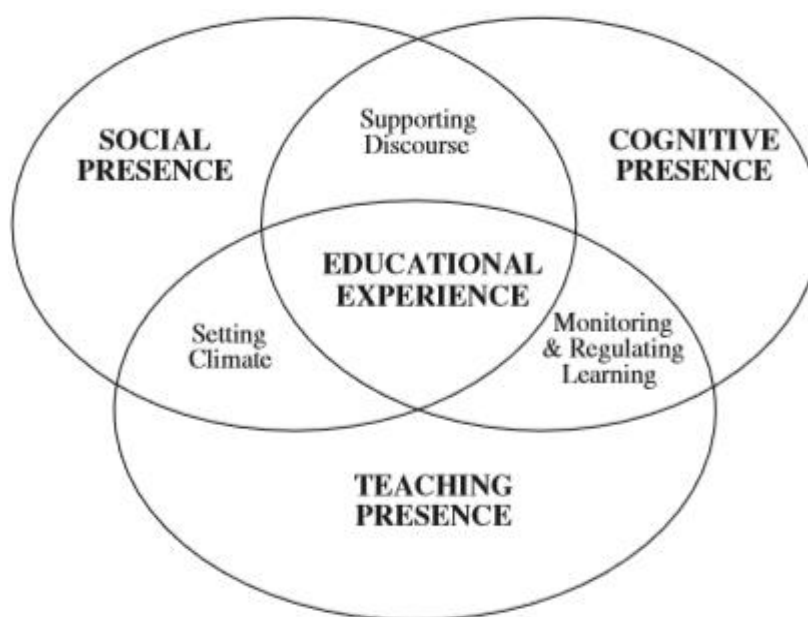
The theoretical foundations of this model require that both students and tutors contribute equally to learning; hence the model is termed ‘collaborative-constructivist’. One aspect of key importance in this model is the interpersonal qualities of each participant whether student or tutor. Each must develop three presences for successful educational experience to take place: a) social, b) cognitive and c) teaching presence. A simplified illustration of the overlay between the three presences is illustrated in Figure 2.2. This model proposes that the tutor is initially responsible for teaching presence, alongside social presence, to guide student cognition to enable interaction (Shea & Bidjerano, 2012). Students meanwhile also develop three presences in parallel with the tutor, monitoring and regulating learning with a focus on interactional space rather than the tools of curriculum delivery (Garrison & Akyol, 2013).

However, developing a social presence does happen without support from tutors and experts in the development of this notion advise: “it would be a significant error to assume that social presence does not have to be fostered and managed face-to-face” (Vaughan, Cleveland-Innes & Garrison, 2013, p.49). Research indicates that developing an online personality was a challenge for students and tutors, due to role changes and social factors (Richardson & Swan, 2003). Other research identifies that a strong and salient online identity may contribute to feelings of belonging to the community of learners, which in turn has positive effects on retention and student motivation (Baxter, 2012; Baxter & Haycock, 2014).

Blended learning interaction according to the CoI model needs to be designed to include students in both asynchronous and synchronous interaction on separate temporal occasions. The asynchronous forum is a space for reflective thinking and exchange of messaging, allowing the development of higher thinking skills in students. The synchronous space is more involved with spontaneous and creative idea-sharing or problem-solving activity. A cross-over should occur between the two spaces, so ideas that are ‘mind-stormed’ on the synchronous forum and can be reflected on and critiqued in the asynchronous threads (Garrison et al, 2000). The hallmarks of a ‘community of inquiry’ are a “thoughtful integration of face-to-face and online learning to optimise student engagement and deeper processing” (Garrison & Vaughan, 2008, pp. 5–6), suggesting face-to-face or synchronous delivery requires close alignment with whatever is ongoing in the asynchronous aspects of delivery.

Figure 2.2

The three presences essential in the Community of Inquiry model (Garrison & Vaughan (2008 p.18)



Over time this model has developed in sophistication and each presence requires a certain level of pre-skills necessary to fulfil the final stage of meta-cognition for both tutor and student during interaction for example to reflect both on and in action (Akyol & Garrison, 2011). These pre-skills seem quite advanced in the light of what has been

theorised about the gradual skills development in the models from Salmon (2004) and Harasim (2012) above. There is no sign either of at what level of undergraduate study one would expect metacognition to be present. Therefore, the usefulness of the community of inquiry as a model to employ to support undergraduate learning might be questioned, given the sophisticated skills level required of students regarding metacognition constructs (Aykol & Garrison, 2011).

“Communities of inquiry” have proved to be a focus of ongoing research, debate, disagreement, and uncertainty with suggestions of modification; for example, a fourth ‘learning presence’ (Akyol et al., 2009; Akyol & Garrison, 2011; Xin, 2012). Research evidence indicates however that collaborative learning has proved difficult to organise in practice, due to: a) ineffective groupings of students (Baker and Clark, 2010), b) students experiencing unequal individual participation (Freeman & Greenacre, 2010) and c) weak communication and collaborative skills in students (Li & Campbell, 2008). Nevertheless, the community of inquiry model (CoI) is frequently referred to in research, gathering a steadily increasing number of citations during the period 2000 – 2019 (Web of Science, 2019).

Allied to the community of inquiry theory model are ‘communities of practice’ which explore the processes of learning in communities, whereby “the success of both new and old members depends on the eventual replacement of old-timers by newcomers-become-old-timers themselves” (Lave, 1991, p. 74). The tensions that this replacement of ideas or practice of the mature by the younger members of a group introduce into processes of learning are fundamental and are purported to occur naturally whenever groups of people, with a common interest, work together in society; thus learning is ‘situated’ in everyday practice (Lave, 1991). Situated learning is a concept related to communities of practice and focuses on the way people work together in everyday situations and thus learn their discipline or skills ‘in situ’, often linked with the apprentice model of learning (Beaufort, 2000). Laurillard (2002) was overly critical of the notion that ‘situated learning’ is an appropriate theory for learning in higher education, as the goals of learning at this level of study are to enable a shift to abstract thought and synthesis, rather than to hold cognition in the ‘here and now’. The terms ‘collaborative learning’ and ‘communities of practice’ are commonly used in education to describe students’ learning in forums and in research (Haycock & Baxter, 2014). However, Garrison & Vaughan (2008) cautioned that it is far from the case that learning happens just because students are

responding to messages in communities of practice. Instead it was argued that blended learning is a new pedagogy that requires a fundamental restructuring of delivery.

However, Conole (2014a) proposed that tightly knit communities of practice are no longer relevant, instead replaced by “a spectrum of communities from individualistic spaces through loosely bound and often transitory collectives, through to more established and clearly defined communities” (p. 503). Conole (2014b) also argued that module designers and tutors need to closely examine context and to reflect on how the various tools provided in centre-managed design teams are employed. Conole (2014a) suggested that all people in society are now digitally oriented into a networked society and are in the process of developing: “The avatars we choose to represent ourselves, the style of language we use and the degree to which we are open (both professionally and personally) within these spaces, give a collective picture of how we are viewed by others” (p. 504). This claim might require greater empirical backing if avatars are to be a central position in networked academic learning for students, in the light of the deficits in students’ ability to operate in a digital and academic environment (Newman & Beetham, 2017).

The delivery of ‘blended learning’ is increasingly acknowledged to be more complex than ‘traditional learning’. Rose and Ray (2011) suggested that tutors were less successful in managing blended learning when this was bolted on to a traditional model of delivery but were more successful when new pedagogical approaches were introduced, which involve quite complex self-videoing and streaming. Freeman and Tremblay (2013) noted in a case study analysis that tutors struggled to integrate blended learning in their practice due to the way this was organised. Firstly, tutors found it hard to move from linearity in the curriculum design to allow flexibility in student choice, secondly pedagogical dissonance was problematic as tutors did not feel comfortable with reducing in-class contact time to free up time for students to prepare for session. Finally, the introduction of teaching assistants to support students online, excluded tutors from sessions and eroded the tutor-student relationship.

If it is the case that a reasonably developed social presence and confidence is a precursor to success in collaborative learning, then logically the lack of either may lead to less than successful blended learning for students. The literature suggests that tutors on campus are experimenting with learning design and some creative examples have been

‘aired’ in the literature for this thesis. Gu, Shao, Guo & Lim, (2015) suggested role play to encourage dialogue; however, this is difficult to organise in distance provision and although the idea might work for small and static groups of students, larger groups would be problematic. Research exploring the ‘flipped’ classroom, whereby the tutor takes the ‘back seat’ using instructional videos and podcasts rather than tutor-led lectures, is another idea to improve student participation in blended learning (Guy & Marquis, 2016; Montgomery et al., 2019). However, it is doubtful if individual tutors have the time or expertise to undertake the creation and/or use of complex video and audio resources for each tutorial delivered (Rose & Ray, 2011; Ellis, 2016). The fostering of collaborative learning in higher education is a less successful aspect of blended learning due to many students’ reluctance to interact socially and co-operatively; a negative issue that has been noted in several studies (Monterio & Morrison, 2014; Gašević et al., 2015; Gu et al., 2015; Kim, 2013; Adekola et al., 2017; Le, Janssen & Wubblels, 2018). Monterio and Morrison (2014) noted that students previous learning experiences had *not* transferred to university, noting students needed quite extensive support and direction to enable peer-to-peer collaboration in learning. However, the latter had little demonstrable effect on grading.

The literature reviewed in this section suggest that a shift to student-centred learning involves a change in tutors’ approach to learning and design, and that in turn students *may* then adapt to change in relationships and tasks within collaborative learning. Facilitation is an important facet of an orchestrated combination of teaching together with the development of both social and cognitive presence, involving the opportunity for participants to meet face-to-face, as well as developing strong inter-group relationships (Vaughan et al., 2013). Critics question that the notion that ‘facilitation’ of learning alone will meet the criteria for successful blended learning outcomes, suggesting greater support pre exposure to collaborative learning situations to students is required to enable students to reach a point of being able to apply critical faculty in interactive sessions (Andriessen, Baker & Suthers, 2013).

As noted in the introduction to this chapter, the concept of heutagogy is yet to be fully empirically researched. A recent literature review indicated that the theory and exploration of heutagogy is under-developed on several counts with only limited empirical evidence to support some of the theoretical dimensions relating to how adult distance learning students manage self-directed learning. The authors concluded there is a need for

large-scale longitudinal studies to be carried out on a wider student demographic (Agonàcs & Matos, 2019).

For the practitioner keen to seek to develop teaching in virtual space, which is now replacing physical space, the examples of theoretical models in this section serve to illustrate how social interaction is proposed to provide advancement in students' understanding. However, the models of blended learning reviewed here fail to account for the variation in teaching practice and the variation in students' skill levels and responses. Whilst there are no clear answers in the literature on pedagogy, particularly how to resolve a reluctance for students to participate in blended learning interaction, there are suggestions that tutors' beliefs are implicated. However, in blended learning most of the curriculum design is not managed by the tutors delivering the curriculum and this disconnect is argued to be problematic (Bonk et al., 2012). Research evidence suggests that the design of blended learning might have a direct and indirect effect on students' participation in online interaction. Hence the literature review now turns to consider some of the issues relating to blended learning design, which is mostly centrally created by providers, due to the technicalities of the VLE requiring different types of expertise to direct teaching (Price & Kirkwood, 2008).

2.6 Module design and blended learning

As noted in the previous section blended learning design, particularly for distance learning, is more complex than initially thought. Salmon and Wright (2014) argued that successful blended learning relies on holistic learning design, a view supported by others (Wang, Han & Yang, 2015; Diep, Zhu, Struyven & Blieck, 2017). Much of the responsibility for decisions on curriculum delivery, and the types of objects or artefacts used in delivery, are now managed via the practice of learning design (Bowyer & Chambers, 2017; Ma'arop & Embi, 2016). Several versions and definitions of learning design (LD) are presented in the literature; a simple example being: "designing, planning, orchestrating, and supporting learning activities as part of a learning session or programme" (Britain, 2007, p. 104). Research on LD continues to develop and cannot be given a full account in this thesis; however, some key issues relating to student participation and engagement in the literature at the time of data-gathering for this thesis are considered here. Hence, the thesis now turns to consider some examples from research on student learning which highlight some issues arising in the transition from didactic

pedagogy to institutional pedagogy, with implications for students' participation in blended learning. Whilst the individualistic nature of students in their approach to learning was documented several decades ago, this individuality would be less apparent to tutors delivering lectures in lecture theatres or classrooms. However, student activity and attributes today can be captured and tracked electronically, thus this information can be an important source when designing or supporting students in their blended learning (Ellis, 2016).

Successful learning outcomes for students are claimed to occur when formative assessment and associated tasks and tools help to shape the students to complete their final summative assessment, termed 'constructive alignment' (Biggs, 1996; Rust, Price & O'Donovan, 2003; Kirkwood & Price, 2008; Biggs & Tang, 2011). Information regarding student learning indicates that a complex inter-relationship exists between a) course design, b) students' characteristics, c) students' perceptions of the learning context and d) successful learning outcomes. When curriculum design is constructed to involve a series of periodic and informal tasks that are aligned with the final summative assignment, a positive outcome on grading and overall success has been witnessed (Rust et al., 2003; Biggs & Tang, 2011). Advocates of constructive alignment of the curriculum claim that this approach continues to be relevant to blended learning today, although more complex to deliver (Barry, Murphy & Drew, 2015; Fitzallen, Brown, Biggs & Tang, 2017). Biggs (2016) has developed an 'e-portfolio' for students based around constructive alignment to include a comprehensive range of 'e-assessments' aligned with teaching and learning outcomes which is successfully embedded across all programmes at Bond university in Australia (Biggs, 2016). Constructive alignment, although a recognised component of curriculum design in higher education, has shortcomings and is reported to stifle diversity and creativity in learning (Cowan, 2012; Kahn, 2015). The use of tools and blending of activity on the VLE suggests that the relevance of constructive alignment might be questioned or re-evaluated by further research, given that some critics have pointed out that blended learning design is highly context dependent and that the design has almost limitless possibilities (Graham & Dzuiban, 2007)

Ellis (2016) also advocates drawing on the SAL model in curriculum design, arguing that this model require re-examination in blended learning contexts. As noted earlier, Trigger and Proswell (1996) theorised that student outcomes of learning vary, despite students receiving the same teaching and curricula, due to a complex interplay of

variables as illustrated in Figure 2.3 below. Ellis (2016) builds on theory from Prosser and Trigwell, adapting ideas to accommodate blended learning.

Figure 2.3

The students' experience of blended learning (Ellis, 2016 p. 14)

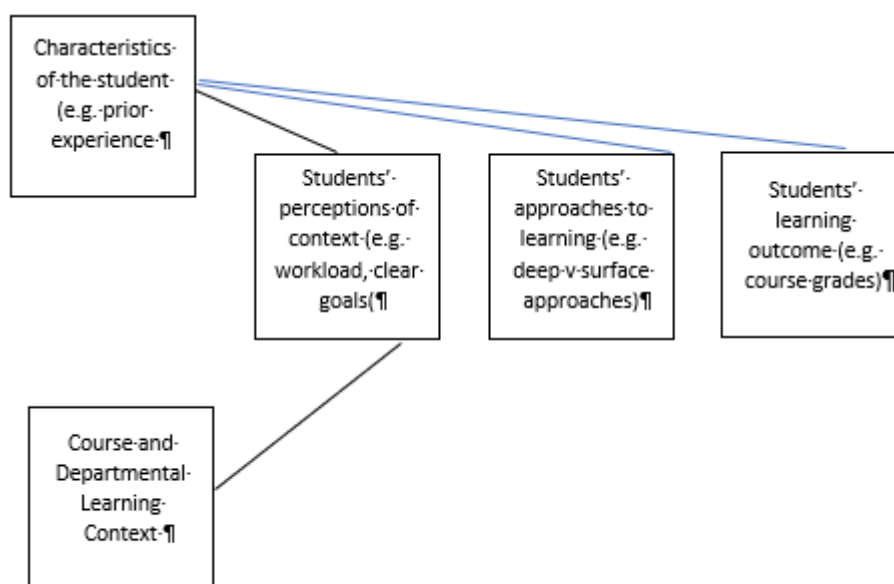


Figure 2.3 illustrates how students' characteristics and the context of curriculum feed into the students' perceptions of the course or module regarding issues such as: a) workload, b) goals, and c) tutoring. In turn, students' combined perceptions influence the strategies adopted in learning, which finally influence the experience of learning to include grading. Ellis (2016) explored first-year students' blended learning experience of an inquiry-based learning task. The task required competence and engagement with technological tools, and Ellis's findings noted that deep approaches to learning were symbiotic with competence with technology. However, most students in Ellis's study required increased levels of support from tutors for the management of technology and inquiry-based tasks. Design issues relating to the alignment of face-to-face and online tasks in relation to workload, were suggested to be an area to consider for design teams. The use of observational techniques rather than student self-reports, to deepen understanding of blended learning, was recommended (Ellis, 2016).

For the situation of distance blended learning contexts, the tutor's role is arguably of lesser importance in design; the tutor's role is to deliver the structure and learning

intentions of the design team to students (Campbell & Schwier, 2014). The responsibility for embedding constructive alignment rests with the module design team in the case of blended and/or distance learning providers; not the module tutors, who arguably have been overlooked in the design process (Charlton, Magoulas & Laurillard, 2012). Therefore the design variables contributing to positive outcomes for blended learning; a) timing of assessment, b) instructional resources and c) all the course or module elements may benefit from close alignment between module teams and tutors *if* the theory of constructive alignment, and the ideas and notions of SAL, remain salient in technological design and delivery.

Turning to consider other factors that might influence the extent to which students are drawn in to engage with online activity or the contrary, technology provides a panoply of tools to include learning objects, forums and wiki threads for use in the delivery of blended learning (Conole, 2014a). However, in practice the use of such tools varies, informed by the quality of purposeful educational output and likelihood of drawing in students to participate. For example, while online discussion forums have the potential to become communities of practice, research shows that the topic of discussion in a large group degrades into copious threads, off-focus messages, or a series of add-on notes, but with no overarching analysis or convergence of ideas appearing (Garrison & Cleveland-Innes, 2005; Harasim, 2012; Ioannou, Brown & Artino, 2015). Conversely, learning is also adversely affected by low or no postings from participants (Hew, Cheung & Ng, 2010). Newman and Beetham (2017) recorded that less than half of their sample of over 2,000 students in further and higher education had used digital games, polling or quizzes in their learning, regardless of whether students were campus-based or distance-based blended learners. The under-utilisation of tutor-group forums has also been noted (Rivers, Richardson & Price, 2014; Griffin & Roy, 2019).

The need to create learning contexts that are stimulating and inviting to students was noted in previously in this chapter, related to the ‘student acceptance of technology’ models. The findings suggest that poor visual design and ambience on the VLE, might be a reason for students’ preference for online interaction on Facebook, You Tube or other media (Bannerjee & Dey, 2013). Research into student boredom in their academic learning is a growing body of literature, indicating that course designers need to be mindful that the disposition to become bored in/with learning can have debilitating effects. These effects can negatively influence not only on the strategies adopted by students in their studies (as

noted in the SAL model in Section 2.4) but also may have a deleterious impact on student's health and behaviour. Therefore, curriculum design and activities should be planned to keep students stimulated and engaged in their work; particularly in the final year of study when academic fatigue may be most marked and affect grades and final awards (Sharp, Hemmings, Kay & Atkin, 2018).

Emphasis on the need to work from the students' experience in their preference of online tools comes from a two-year study exploring the fostering of student interaction and engagement in online activity with part-time, distance learning, language students (Hampel & Pleines, 2013). The findings in the first stage of the study suggest that whilst the students preferred the forums to other formats, such as blogs and wikis, a variation in engagement was noted. Specifically: a) higher peaks when assessment was the focus; b) large gaps between the viewing of activities by individual students, and c) more students viewing than taking part. Also noted were major differences in individual activities, with low priority given to online activity and high variability in students' digital skill levels. In response to the findings, a redesign of the course to simplify its structure, as well as reducing the number of tools, had a positive effect on both students' engagement and outcomes.

In a reflexive account of the difficulties in encouraging students who were reluctant to engage in communication in the context of large student groups in both lectures and online, a range of interactive tools such as Kahoot, Poll Everywhere and Padlet, was used *in situ* to enable and facilitate increased participation; an outcome which was achieved (Young & Nichols, 2017). These authors proposed that this strategy in lectures should be further augmented by the integration of 'Google Communities' withing the host university's VLE, fostering a more interactive community of learners. Young & Nichols's (2017) findings indicate that the preference for either asynchronous or face-to-face classroom provision was evenly divided between the cohorts studied. Such an outcome suggests that the flexibility of online tools helps to accommodate the different learning styles of students. Interestingly, the authors noted the importance of the constructive alignment of formative and summative assessment with prompt feedback; a format prescribed by Biggs & Tang (2011).

Consensus about group size in relation to encouraging students' online activity discussion forums is lacking, a particularly important issue as these forums are dialogic in nature (Kim, 2013). Some sources suggest eight to ten as a minimum number and 30 as a

maximum, with 12 being the ideal number to allow for the tutor's management of responses. Hence, planning at the meso level might need to consider how tutors are to manage the size of groups in relation to fostering collaborative student learning on forums. This point is particularly relevant when group contributions could be coming from up to 2,000 students in nationwide forums (Baxter & Haycock, 2014). Qualitative feedback from students in one recent study indicated the ideal group for distance learning is around 20 students, assigned to one key tutor (McDougal, 2019).

The literature indicates that different subject disciplines may need to consider different design approaches in order to encourage student participation in their online learning activities. Kovanović et al. (2015) noted that engineering students had different learning profiles to other students in relation to cognitive presence in asynchronous activity. Their results suggested that different types and formats of instructional support and intervention are needed for different student learning profiles. Primary teachers and early-years practitioners required: a) an intensive induction to technology, ii) navigation of the VLE, and iii) acculturation to the demands of academic study in order to avoid attrition and to support module completion by those students (Safford & Stinton, 2016). Vocational areas such as medicine, nursing and other practice-based disciplines report high satisfaction with blended learning, possibly due to the affordances available in relation to practical procedures relating to complex areas of learning (Morton et al., 2016).

The difficulties of orchestrating blended learning delivery to ensure both students and tutors were participating and/or benefiting from online interaction were demonstrated in a case study of one campus university in Manchester, UK (Meadows et al., 2016). Concerned that the institutions' blended learning strategy had not provided evidence of 'enhancement' to students' learning performance, a large-scale project was devised to include ongoing evaluation in a twice -yearly survey of the students' experiences. The investigation was combined with a thematic analysis of text messages from students, as well as a separate thematic analysis of lecturers' perceptions, to monitor the effectiveness of blended learning. Meadows et al.'s (2016) study demonstrated that cultural change and shifts, even within one university, involves a multi-layered approach that needs to *include* the students' and tutors' voices. This Manchester study might be criticised for the assumption that technology enhances learning to the extent that it is possible to identify features enough to appoint "technology-enhanced learning advisors". Given the criticisms

of the rhetoric surrounding enhanced learning this assumption is, at the very least, questionable (Kirkwood & Price, 2014).

The burgeoning field of learning analytics and learning design in recent years has enabled access to electronic information about students to providers of higher education, which may assist with providing further information about student's online participation. "Learning analytics is the measurement, collection, analysis and reporting of data about learners and their contexts, for purposes of understanding and optimising learning and the environments in which it occurs" (Learning Analytics and Knowledge Conference, 2011). Checks on when and how student interact may help with data collection, however it does not solve the problem of low engagement. Analysis of student activity also evokes concerns regarding students' right to privacy although there are clear and explicit code of ethics to ensure avoidance of any misuse or misappropriation of data (Slade & Prinsolo, 2013).

Learning analytics provided plentiful details regarding patterns of students' studying in one large scale investigation combining over 5 years of data collection and analysis (Rienties, Cross, Marsh & Ullman, 2017). The findings suggested that aspects such as module design and the cycle of presentation influence a student's positive perception of their experience. Certain learning characteristics associated with pre-learning, such as employment skills and socio-economic status, also shaped students' perceptions in a positive way. The status of students themselves, with regards to whether they were either novice or seasoned learners, affected the likelihood of withdrawing from study (Li, Marsh, Rienties & Whitelock, 2017).

These findings indicate that greater effort was needed in module design and induction for first year students; and, that second-year students had developed survival strategies to manage their studies. Findings from learning analytics also indicate that whilst students prefer assimilative activities such as reading, to the greater challenges of collaborative work in online interaction, the latter influences retention rates in a positive way; another point to be considered with regards to module design. Module design might be improved by incorporating fewer assimilative activities such as reading or passive viewing and greater levels of activity that encourage student input, as the type of activity is linked to students' outcomes; an issue that currently requires further research (Toetenal & Rienties, 2016a).

Campus-based providers also perceive that students struggle with certain aspects of online interaction and adopt controlled design approaches to examine how to foster online interaction in students. Krupat et al. (2016) designed a study comparing the effectiveness of case-based collaborative learning to problem-based learning on end-of-module learning and grades for medical students. Small groups of students were pre-tested for group-work readiness. Students were directed to discuss a series of open-ended questions in small groups of 4 and reach agreement, followed-up by discussions in larger groups of 16 students, where they were instructed to reach consensus on the open-ended questions. In an examination of the findings the case-based collaborative learning group seemed to better support students who had lower academic performance, compared to the larger cohort. Whilst this study does not causally link to student participation in collaborative interaction, firstly, it serves to illustrate that different interpretations of collaboration in a blended learning context exist, and secondly, even potentially ‘bright’ Harvard (USA) medical students in their first year of study require support to cope with blended learning. Thus, this outcome perhaps questions the appropriateness of collaborative learning for new undergraduates.

The importance of utilising feedback from students on their blended learning experience is a more recent research approach paired with the design team, to shape design in the hope that this combinatory research would help to reduce student attrition rates and improve student engagement in their learning (Weller, van Ameijde & Cross, 2018). Emerging from this research is a checklist for module designers using the acronym ICEBERG, with the suggestion that both module designers and tutors use this to assess module design (Appendix 7). The impact on students’ learning behaviour and attrition is yet to be fully assessed. Some of the ICEBERG features are established in the literature, for example, constructive alignment (Biggs & Tang, 2011) and the fostering of camaraderie within learning communities (Jan & Vlachopoulos, 2018).

Having focused on examples of areas related to learning design that may work change or influence students’ participation in blended learning design, a further complication is created for programmes design by the ‘shifting sands’ of technology; an phenomenon which is purported to be fast paced and ever-changing, potentially leading to low-levels of design investment (Selwyn, 2016b, p. 37). It was predicted in early 2000 that ‘connectivism’ would replace the traditional ‘objectivist’ and ‘constructivist’ pedagogies

prevalent in teaching in past decades, with a shift to closer alignment with social media and teaching with technology. In such a format learning occurs via networks with other learners and in a non-linear fashion (Siemens, 2005; Bates, 2011; Tschafen & Mackness, 2012). Bates (2011) takes the radical view that the VLE with its centrally designed learning objectives stifles teaching and learning and suggests that learning will shift to connectivism. According to Bates (2011) connectivist models are the future of learning; the role of the tutor in connectivism will be ‘critical friend’, co-traveller, facilitator and/or curator (Jung, 2019). Connectivism theoretically underpins MOOCS where students work without direct academic supervision (Bates, 2014; Jung, 2019). However, Jung (2019) reports that students taking part in MOOCS, in an analogous way to blended learning students, struggled with the challenge due to their: a) lack of critical literacy, b) lack of social presence and c) difficulty in engaging with new tasks. Additionally, MOOCS at present have high attrition rates related to students’ goals in learning (Ng, 2017).

The literature suggests that module design may be implicated in the extent to which students choose to participate in online activity, however design requires holistic planning and consideration of the pedagogical alignment of tutors and module design (Laurillard, 2002; Napier et al., 2011; Charlton et al., 2012; Salmon and Wright, 2014; Porter et al., 2016). However, the literature reviewed in this section indicates that module and programme design is still subject to experimentation and evaluation and there may be different styles of blended learning emerging, perhaps to suit cohorts of students, vocational areas and disciplines. What is reinforced in the literature is the need for symbiosis between module designers, technicians, data wranglers and tutors who are involved in blended learning delivery outcomes for the student as different elements need to be ‘socially constructed’ and aligned (Christiansen, et al. 2019).

2.7 Summary and conceptual model

The literature reviewed in this chapter on blended learning identifies key areas that *may* contribute to low participation and interaction rates by students in formal asynchronous and synchronous forums at three levels of influence noted by Anderson and Zawacki-Richter (2014) in Section 1.2 as follows:

Micro level - practice

- Tutors and students' beliefs about teaching and learning
- Lack of preparation in the use of technology in learning for first year students
- Assumptions about students' and tutors' skills sets in relation to technology

Meso level – structural design of curriculum provided via VLE:

- Theories of student learning (SAL & SRL) in relation to blended learning
- Organisation of student learning in relation to tool use on VLE
- Relevance of student voice in design
- Alignment of teaching delivery between tutors and module design
- Difference across disciplines in the way students engage in blended learning

Macro level

- The relationship of theory of blended learning to the organisation of learning

The above points indicate a range of factors that may encourage or discourage students' ability to participate in online activity from this "multi-level" perspective. The theories underpinning blended learning outlined in Section 2.6 propose that students' collaboration online interaction operates to enhance students' higher-level thinking skills (Salmon, 2004; Harasim, 2012; Garrison & Kanuka, 2004; Aykol & Garrison, 2011). However, contrary evidence suggests that a seamless transition to collaborative learning is difficult to achieve and the literature review has underscored that no single factor explains the reluctance of students to participate in online interaction within blended learning. The online elements of blended learning seem quite complex processes and presenting challenges to both tutors and students alike, particularly in relation to the time and effort to create 'communities of practice'.

As far as can be established from the literature review for this thesis there was little in the way of direct research on students' expectations of blended learning. However, given the Zeitgeist surrounding technology in the 2000s onwards and the various assumptions regarding technology in education outlined in Chapter 1.1, the expectations of students of blended learning were probably not deemed a consideration within academic research. Thus, the points raised here indicate that expectations regarding students' ability

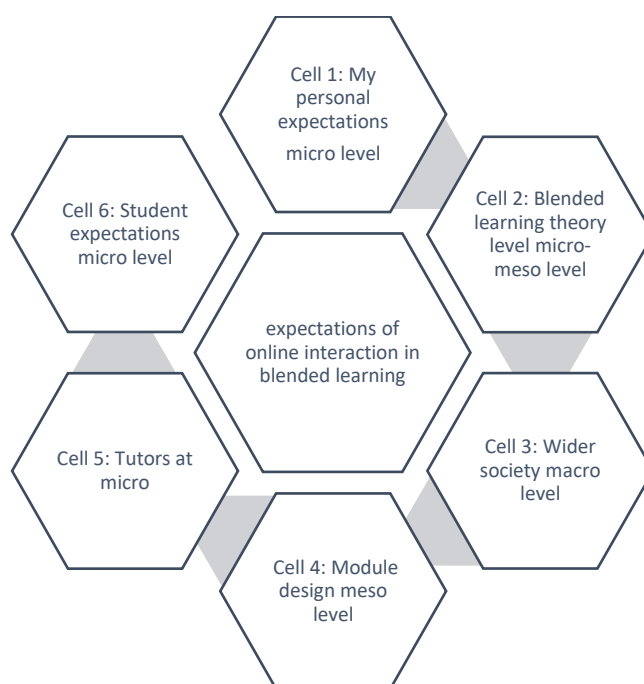
to participate in online interaction at any level of study are challenged by research and the assumptions that all students are digitally literate questioned (Miranda et al. 2018).

One key concept arising from this research is that a mismatch of expectation exists around what students should be doing in online interaction within blended learning delivery, compared to how students respond to online interaction. This point in itself may not be so surprising given that research for several decades has identified contrast between teaching expectations of students' learning outcomes in higher education compared to students' approaches to their studies, evidenced in the body of work on student approaches to learning, and students' ability to regulate and motivate themselves (Pintrich, 2004).

Returning now to reflect on how social constructivism is justified as a theoretical framework underpinning thesis it appears a constellation of differing expectations about blended learning exist within the literature and in relation to my own views, derived from theory and practice knowledge. An account of each of the perceived expectations at the micro, meso and macro levels of provision is offered in Figure 2.4. In the top position in Figure 2.4, cell 1, as indicated in Chapter One my personal expectations were influenced by my knowledge of facilitative learning within higher education, and possibly clouded by a general media driven impression that youth equates with skills in online interaction (Prensky, 2012). Cell 2 on Figure 2.4 indicates that my expectations were also imbued with theoretical accounts of collaborative learning as a projected outcome of blended learning (Garrison & Kanuka, 2011; Vaughn et al. 2013). At cell 3, the theorist's positions themselves were derived from the opportunity to explore how new information and communication technologies afforded the opportunity to transfer theories of facilitative and collaborative learning to online situations with the shared assumptions with policy-makers and technologists that this would improve creativity, productivity and critical analysis within students (Conole, 2014b).

Figure 2.4

A constellation model of expectations in blended learning at the micro, meso and macro level of provision



In cell 4, Figure 2.4, the expectations of module designers regarding how students would adapt to online blended interaction (at the meso level of analysis), were not fully clarified within the literature reviewed. However, some blended learning theorists in their highlight that that the schism between design and delivery is problematic when this is undertaken by different people (Bonk et al., 2012; Vaughn et al. 2013). With regards to tutor expectations in cell 5, the literature in Section 2.5 identified that the tutor assumptions and beliefs about the pedagogy of blended learning varied quite markedly, and thus identified an area where further research on the students’ experience of blended learning is needed, as successful online interaction seems to hinge on the recognition that collaboration in learning is a highly important feature of blended learning (O’Neill & McMahon, 2005; Salmon & Wright, 2014; Campbell et al., 2018). The catalyst to this thesis was the need to establish why my expectations of students’ online interaction were unmet when the transition to blended learning occurred. As cell 6 shows, student expectations are not illustrated in a ‘flow’ position, this was purposefully to indicate that student expectations for me at least in practice, were unknown, hence, cell 6 of Figure 2.4 does not “flow” and has no follow on relationship to the other items in Figure 2.4. The

central theoretical framework of social constructivism derives from Anderson & Zawacki-Richman (2014) notion of the need to consider blended learning at a multi-level perspective, combined with the idea derived from a reflection on the literature that the different participants within blended learning may have different social constructs (expectations) regarding the use of the interactional space afforded by blended learning. These expectations or social constructs of all those involved in blended learning provision contribute to what could be termed ‘communities of practice’ (Wenger & Ferguson, 2006).

In summary the range of papers considered in the review led to my understanding that the practice problem of student participation in online interaction would not be addressed by simple causal explanations, confirming the need to examine how students responded to online options for interaction, both asynchronous and synchronous. Thus, there was justification for further examination of the student sample chosen for this thesis to capture how students experienced the transition to online interaction. The qualitative experience of students may be of increasing importance as campus-based universities adapt to distance learning modes due to the limitations of survey findings outlined in Section 2.3.1 During the cycle of literature review undertaken for this thesis gaps in the literature were identified:

- The expectations of blended learning of students at the mid-point of their undergraduate programmes.
- The triangulation of quantitative and qualitative data on the students’ experience of blended learning
- Student perceptions on the transition to blended learning in distance learning mode

In consideration of how to develop the research design for this thesis, this clearly needed to encompass more than the “micro” level of delivery, to include the “meso” level based on the findings of the literature review in Section 2.6, whereby student involvement in their learning related to module design. A survey offers the scope and scale to determine the general trends in students’ perceptions of blended learning, offering an opportunity to compare findings with previous applications of the CEQ in institutions. Combining a

survey with the open-ended comments allows ‘drilling down’ to the students’ over-arching perceptions of their blended learning experiences.

The research question formed was an open and non-directional question (Yin, 2011):

Can information regarding students’ experiences of blended learning help to inform practice?

- How do students perceive online interaction? (Qualitative)
- Has blended learning provision influenced students’ experience of their learning? (Quantitative)

The following Chapter outlines the how the research approach was shaped to capture the perceptions and experiences of the students in this sample.

Chapter 3 Methodology

3.1 Introduction

In this chapter an account is provided of the methodology devised for answering the research and arising from the conceptual model and theoretical framework of social constructivism outlined in the previous chapter. The summary of the literature in Section 2.5 indicated that the problem of students' low participation in online interaction could be conceptually linked to a range of expectations from those involved in the architecture and pedagogy of blended learning experiences although there was less direct knowledge of what the expectations of students were regarding online interaction in blended learning. The decision to focus on a sample of second-year psychology undergraduates was taken to explore the transitional phase to blended learning to illuminate reasons for low student participation in online interaction.

Section 3.2 outlines the theoretical underpinning to this thesis and personal and professional factors likely to influence my position as a researcher. Section 3.3 justifies the use of a case study framework and mixed methods approach for this thesis by evaluating the case study approach and explaining how case study and mixed methods are aligned in relation to the ontology and epistemology underpinning this thesis, which is Pragmatism. Details of the modified CEQ in the form of an e-survey are provided in 3.4. The sample of students volunteering to participate in the research are provided in Section 3.5. The ethical protocols applied to safeguard participants and their data is outlined in Section 3.6. together with the preparation of the data for analysis leading into Chapter 4, the separate analysis of quantitative and qualitative data to answer the research question **“Can students' perceptions of blended learning help to inform practice?”**

3.2 Research approach

Clarification of the conceptual and theoretical ideas alongside one's personal positioning regarding the approach to research is essential according to Crotty (1998 p. 2 “how the methodologies and methods relate to more theoretical elements is often left

unclear”. Crotty suggests that researchers are guided by four key points: a) the methods chosen to collect data, b) how the methods chosen govern methodology, c) the theoretical perspective underpinning the methodology and finally d) the epistemology informing the theoretical perspective. The rationale for choosing a modified e-survey combining a large-scale survey, a “media” survey and qualitative data was outlined at the close of Chapter two, with this method of data collection seeming the most appropriate way to address the research question.. With regards to the theoretical perspective for this thesis, the fact that various expectations about students’ and their propensity to perform on interact online coalesced around a series of expectations illustrated in Figure 2.5. These varying expectations suggested a social constructivist theoretical framework as differing perceptions and expectations about blended learning were apparent (Kim, 2001).

Constructivist approaches embrace a range of various theoretical ideas and associated methods within research developed from social science and social studies which challenge the traditional, “objective” scientific approach to the understanding of human-related experience (Maréchal, 2010). The idea that people can hold individual and different views of one event compared to others is accommodated within social constructivist theory as this recognises that individuals have intrapersonal constructs about events which are actively constructed in a Piagetian “constructivist” sense, but also that knowledge of events are a reality that is inter-personal and culturally and socially constructed (Vygotsky, 1978; Kim, 2001; Anderson, 2016).

Although as noted in Section 2.5 philosophical debate exists in the literature regarding the processes of learning and knowledge development in the human mind, theorists within education agree that a social element is fundamental to human understanding and cognition (Illeris, 2018). Within the discipline of psychology, the term social constructivism is employed, whereas sociologists adopted the term social constructionism – the latter being more associated with phenomenological accounts of experience (Maréchal, 2010). This thesis therefore adopts social constructivism as the theoretical framework for this thesis as phenomenological methods are not employed.

Aside from the research approach in this thesis being informed by the literature, personal ethics and constructs about education are also a key influence on methodology (Pring, 2000). Hence, this thesis is derived from a set of personal constructs about

education relating to my own experiences as a distance learning student, and the maintenance of my principles and ethics embedded in my professional role, as technology and theory evolve within education. Ethical practice involves a critical reflexivity which I applied when, in 2011, I questioned to what extent I had the skills to deliver and support students in shift to blended learning on the two modules I was responsible. My questioning was in response to the ambivalence and concern about the technological changes expressed by students in my module groups and colleagues in the workplace. Hence, I took the decision to research the matter in a formal way by taking on the additional role of researcher, over and above my role as a tutor with the Open University, outlined in Section 1.2.

Personal beliefs about working with adult learners gravitate to a facilitative rather than didactic position underpinned by the humanist beliefs about learning (Rogers, 1990). Interest in the development of technology in teaching was initiated through participation in various ‘pilot’ studies relating to the development of tools to aid students’ access to research skills within both campus and distance-based settings in 2000 onwards, when it was realised that allowing students to work with real participants was ethically problematic (British Psychology Society, 2014). My curiosity about the failure of technology to draw students together in learning led to the decision to study for a professional doctorate involving a shift in role from tutor to that of a researcher. This role change would enable me to review Open University educational practice in an evidence-based way, and to explore formal rather than anecdotal information about how change is experienced by students and their learning over time (Finlay, 2008). Rather than being ‘outside’ of the research context my position could be defined as an ‘insider’ as I had in-depth knowledge of The Open University (Hellawell, 2006).

The notion of insider-outsider research has become a common feature within research stemming from ethnography (Louisy, 1997; Hammersley & Atkinson, 1995; Arthur, McNess & Crossley, 2016). Educational research is an area where researchers often investigate their own practice and/or organisations and possible biases and barriers to transparency in research need to be reflected upon by the researcher and considered in the design proposal (Hellawell, 2006). Reflexivity is a process whereby the researcher recognises potential biases to a research project emanating from their own experience and attitudes, which might be professionally or personally attained. Critical self-analysis and

reflexivity are regarded as mental tools to counter ‘insider’ research bias (Le Gallais, 2008).

As noted, the dual role I occupy within The Open University, as tutor and research student, provides two notions of ‘insider and additionally, three of my qualifications have been awarded from this institution so I am a life-long distance learner with different affiliation to a tutor/research student who had not studied previously with the Open University or studied as a ‘mature’ student. Thus, past learning might influence feelings about change, making objectivity a point of reflexive sustainment. As far as my tutor’s role within The Open University, access to information does not involve identifying ‘gatekeepers’ or spending time in developing relationships in a way that investigating practice in an unknown university might (Yin, 2016). Research in one’s own organisation is an area of potential difficulty, particularly given the ambivalence to technological change in higher education, as discussed in Chapter 1 and research outcomes may inhibit candour within the reporting of findings (Greene, 2014). Students taking part in research may respond differently to an employee researcher, particularly a tutor than if the researcher was an outsider. This is more likely to occur when the social context is face-to-face and qualitative, suggesting that the researcher must be sensitive to novel contexts, as well as considering the implications of relative anonymity of participants (Silverman, 2016). However, outsider research may be problematic and have less impact, as the findings can be dismissed on the grounds of the researcher not being fully aware of the full background and context of the institution or setting being investigated (Greene, 2014).

Another factor shaping the research approach adopted is my role in the teaching of psychology, which is rooted in positivistic ontology and the replication of research allied with the quantitative paradigm (Pring, 2000). Positivism proposes that knowledge arises from the study of things that are tangible, measurable, testable, and uses empirically derived data which can be objectively assessed by the researcher (Cohen, Mannion & Morrison, 2011). Whilst positivism maintains influence within psychology, it is recognised by those within the discipline that knowledge is socially constructed rather than an objective entity. As a result of this shift in perspective alternative data collection methods and analysis are now employed within psychological research, for example, non-experimental research and interpretivism used to capture the less easily quantifiable aspects of human behaviours (Chung & Hyland, 2011). Interpretivist research is associated with the qualitative paradigm, claiming that an objective capturing of true reality is unachievable, so that the meanings of

events are always filtered through the senses of the researcher, and the presence of bias and subjectivity is acknowledged (Lin, 1998). Contemporary psychological research approaches to research are less dichotomous with some researchers adopting a post-positivist stance, whereby some retention of empirical testing is favoured, and others moving to a constructivist position which is exploratory, in recognition that reality is socially constructed (Chung & Hyland, 2011).

Having worked within education rather than pure psychology my personal constructs regarding research approach gravitate to the seeking of practical solutions to research problems and a preference for a participatory rather than distal approach within the research (Torrissi-Steele & Drew, 2013; Healey, Flint & Harrington, 2014). Pring (2000) identifies Action research as an appropriate approach within education however this was rejected as the literature review indicated a direct focus on practice-based solutions at the micro-level may not address the research question. A further alternative position was the adoption of an overriding or ideological position such as an emancipatory framework (Mertens, 2018). In some ways this thesis might have some element of an emancipatory effect in the conscious raising of how technology relates to education. Much will depend on the extent to which recommendations made for future research are adopted. However, in the light of the conceptual framework devised in Figure 2.5, this thesis was centred on capturing the experiences or expectations of students rather than their actual practice of online collaboration, as student interaction lacked consistency, with many students being inactive online at the time of data gathering. The decision to use a case study employing a mixed methods approach to address the research questions arose from the conceptual framework Figure 2.5, leading to the following design and methodological framework derived from my 'worldview' (Cresswell & Plano Clark, 2011). Different world view possibilities have emerged within social science, with each adopting specific ontological beliefs and associated epistemology (Bazeley, 2018; Mertens, 2018). Creswell and Plano Clark, (2011) identified four world views: a) post-positivism, b) constructivism, c) participatory worldview, and d) pragmatism.

With regards to the adoption of mixed methods in this study, some commentators question the matter of axiology due to the difficulty in resolving paradigm positions within research, however in contemporary research today this is viewed as a historically philosophical issue (Biddle & Schafft, 2015). To overcome the difficulty of mixed ontology and epistemology, one suggestion is to adopt pragmatism as an 'umbrella'

accommodating the different underpinning philosophies. which is the route adopted in this thesis (Creswell & Plano Clark, 2011; Guest, MacQueen & Namey, 2012).

Pragmatism can accommodate the idea the nature of reality is composed or constructed of multiple views and possibilities, rather than a singular reality to be tested and measured as in the quantitative paradigm, it is problem centred and pluralistic in the methods used to gather data (Creswell & Plano Clark, 2011; Mertens, 2018). Although the recognition of multiple realities is also a feature of constructivist ontology, I chose not to work directly with participants and for this thesis responses were obtained via the internet and utilising inductive and deductive approaches to data gathering. Hence, the epistemology underpinning also aligns most closely with pragmatism; the best approach is “the one that works” (Creswell and Plano Clark, 2011, p. 46). For this case study, both quantitative and qualitative data are gathered at the *same* time and are thought likely to optimise the addressing of the research question (Jacobs, 2010; Bazeley, 2018).

Various design typologies exist for case studies commensurate with the different disciplines who utilise the case study approach and their various rationales for doing so (Thomas, 2013). The design adopted in this study is based on an exploratory strategy outlined by Yin whereby a case study can answer ‘how’ questions when there is not the need for behavioural control of participants and the focus is on contemporary events from “relevant situations for different research strategies” (Yin, 2011, p. 6). Operationalisation of the case study is central to the research and the structure should be clarified at the outset (Thomas, 2013). The design is a single case study with a convergent mixed methods design. As noted, mixed methods are complementary to case studies and ideal for exploratory studies (Kitchenham, 2010). When designing a case study which contains both quantitative and qualitative elements authors advise that the methodology is driven by the research question. The propositions around the research question need to be identified, the unit (s) of analysis, the extent to which the case study will propose theory or build/develop theory and finally how the propositions link to the data and the criteria for interpreting the findings (Yin, 2011; Thomas, 2013). Thomas (2011, p. 591-592) advised “that case study should not be a method in and of itself. Rather, it is a design frame that may incorporate several methods” While case studies are associated with qualitative approaches, and widely used in the social sciences and education the inclusion of quantitative analysis can offer the advantage of adding breadth of scale and scope to the findings. (Yin, 2011, Thomas, 2013).

Turning to consider the mixing of methods from different philosophical standpoints, the “paradigm debate” has been somewhat resolved in recent times and the mixing of methods has been a subtle feature of social science for several decades (Bryman, 2006; Maxwell, 2016). However mixed methods have only recently been formally identified as research approach (Bryman, 2016; Biddle & Schafft, 2015; Maxwell, 2016).

Over the last decade or so there have been several contributors to the development of mixed methods. Greene, Caracelli and Graham (1989) identified five reasons for using mixed method design; triangulation, complementarity, development, initiation and expansion. Bryman (2006b) extended these to 16 criteria; triangulation, offset, completeness, process, different research questions, explanation, sampling, credibility, context, illustration, utility, confirm/discover, diversity of views, enhancement, other/under and not stated. As confirmed in the justification for a case study, the purpose of this study is exploratory and data triangulation of method will be a more robust approach to addressing the research question than a single method.

Design typology has been a source of tension within the development of mixed methods as a research discipline (Bryman (2006b). Plurality of design in mixed methods persists, ranging from designs that operate in a cyclical iterative approach, although the need for a complete or universal typology of mixed methods is contested in favour of basic ‘signature’ designs where balance and compromise are core principles of mixed methods. Advice in the literature encourages consideration of the structuring of mixed design, and the anticipated processes for analysis and inference. For example: whether the methods within the design have equal weighting, whether the methods and inference from the Quantitative (QUAN) and Qualitative (QUAL) are going to be separate or integrated. The credibility of inference and ways to achieve this also must be considered during and on completion of the study (Teddlie & Tashakkori, 2012). Guest et al., (2012) argues against typology and instead offers a simple approach focusing just on the timing and purpose of data integration rather than prescription of full typology. However, it is recognised that mixing methods might pose challenges regarding the alignment of ontology and epistemology within a research design; in particular how to decide at what stage of the design to combine findings (Bryman, 2016; Biddle & Schafft, 2015). One suggestion is the total integration of methodology, rather than employing the binary structure of quantitative and qualitative (Teddlie & Tashakkori 2012; Plowright, 2011).

3.3 Research design

As previously noted, a case study with a convergent mixed methods design was chosen to address the research question. According to Kitchenham (2010 p. 562) “Case study research lends itself particularly well to mixed methods research, as myriad approaches to research design, analysis, and interpretation are possible”. In consideration of the overall design for this thesis, the research question focuses on a single case: the experience and perceptions of a sample of students at the Open University hence a case study frames this thesis. A case study can aid the investigation of a problem area within its real-life context, especially when the boundaries between the problem and context are unclear, as is suggested from the literature reviewed in Chapter two, regarding the different expectations of online interaction from those involved in blended learning contexts. Multiple definitions and types of case study exist across social science and clinical disciplines. However, case studies were adopted within education as a more appropriate option for studying people processes within large organisations compared to positivist approaches (Simons, 2014). Originally, case studies were undertaken within the qualitative paradigm, however with the emergence of mixed methods as a research approach the suggestion is that both quantitative and qualitative methods can be combined within a case study when this is justified by the methodology used to address the research question (Yin, 2013; Yazan, 2015).

On reflecting on the research design, I had considered opting to produce a mixed-methods design without a case study framework to avoid design over-complexity. However, in the case of this thesis the overarching context of The Open University differs to campus-based teaching and so the peculiarities of this distance learning model needed to be included to enable fuller understanding of how tutors and students are positioned in their modes of teaching and learning. The ubiquity of the case study has been noted and clear justification for the adoption of this approach is advised in the literature (Tight, 2010). Cases studies need to be clearly bounded to address research validity (Simons, 2014). The case study in this thesis is bounded by a focus on the micro and meso levels of practice rather than the macro level. At the macro level The Open University is a unique provider of distance learning within the UK and has a specific internal structure and organisation that may exert influence on student learning, although beyond the scope of

this thesis (Anderson & Zawacki-Richter 2014). This thesis is also bounded within a ‘time sample’ of students’ perceptions regarding the integration of online technology in learning as a single case. Other boundaries framing this study are: a) the time limitation framed by the turnaround time of the survey delivery by email, b) the research window available to doctoral researchers designated by the Open University and, finally, c) my personal choice not to be bounded by one distinct research paradigm (Simons, 2014). Other relevant advantages of a case study are that multiple methods can be used, the duration of the study is flexible, the approach is exploratory and can engage participants in the research process, thus contributing to knowledge as noted in Table 3.1 an evaluation of the case study (Simons 2014).

Table 3.1

<i>Case study evaluation (Simons 2014)</i>	
Advantages	Disadvantages
Not dependent on one method	Lack of generalisability
Is not constrained by resources or time	Difficulty in concealing identities
Can show change over time	Drawing inference from one case
Flexibility in duration of time	Subjectivity
Can be exploratory and explanatory	Lack of replicability for some designs
Can be written up in different formats	
Participants can engage in research process	
Contributes to generation of knowledge	

Several disadvantages to the use of case studies are noted in Table 3.1 case studies also face problems with validation and generalisation (Yin, 2013). Although the lack of generalisability of case studies has been a concern, most research studies lack generalisability unless they are undertaken on random samples of the population (Boeren, 2015). Instead, case studies offer analytical rather than statistical generalisation (Cohen et al, 2011; Yin, 2013; Harland, 2014). Case studies in some projects also offer particularization “a rich portrayal of insights and understandings interpreted in the particular context” (Simons 2014 p. 22). As noted above validity is strengthened by clarification of the boundaries of the case study to enable comparison to other studies which is addressed. Triangulation of data source, analyst, theoretical perspectives and in methods also aid validity, together with the employment of exploratory rather than

explanatory research questions (Yin, 2013). The question of subjectivity in qualitative work is addressed by the research via reflexivity in keeping a reflective journal, and transparency in the research process (Morse, 2015). In the instance of this thesis a case study framework offers analytical possibility, dual methods are accommodated and the triangulated data help to form an analysis contributing to general knowledge of blended learning in higher education. findings can be reflected upon over time, as blended learning becomes embedded into the students' options for learning.

As far as the combining of mixed methods within a case study Yin (2011) does not elucidate how these would combine for exploratory studies so the typologies of mixed methods design were consulted to provide clarity in the choice of design. Different theorists within the burgeoning literature on mixed methods suggest different combinations of philosophical belief allied to the choice of research approach and tools to gather data (see Creswell & Plano Clark, 2011, pp. 56 -59). I chose to adopt a convergent design for this thesis by following the “prototypical characteristics of the major mixed methods types of designs” suggested by Creswell and Plano Clark’s (2011 pp. 73 -76). The rationale for this choice was that research question was to be addressed by the concurrent quantitative and qualitative data collection, separate analysis of data and then the triangulated interpretation of the three data sets. The design purpose was to obtain more complete understanding of blended learning experiences of students. Equal emphasis was to be placed on the quantitative and qualitative strands, all of which are mixed after separate data analysis. On reflecting on the design characteristics outlined here for this thesis, these align most closely with pragmatism “as an umbrella philosophy” rather than constructivism, which instead would be a sequential design with qualitative data gathered initially and the emphasised in the analysis. Pragmatism is complementary to the constructivist theoretical framework for this thesis as both recognise that multiple realities exist.

The mixing of methods raises additional challenges in the rigor and quality of conclusions as these are arrived at via deductive and inductive methods and to some extent rely on what is termed “inference quality” (Papadimitriou, et al. 2013, p. 135). These authors point out that a specific a framework to evaluate mixed methods design is yet to be fully developed, the researcher should aspire to offer a transparent account of design decisions, follow methodological convention in relation to quality standards applied to quantitative and qualitative research, in addition to mixed methods standards, and provide

interpretative rigor in the final analysis. Additionally, the phasing and timing of data gathering are important considerations in convergent design (Creswell & Plano Clark, 2011; Guest et al., 2012). In the case of this thesis, the data collection was simplified by combining all data collection into one data gathering tools consisting of:

- Phase 1 a modified CEQ survey and a short tick box media survey
- Phase 2 an expandable window for students' comments on "any further points you wish to make about your experience of online learning"

Hence the design consisted of three sets of data collection points: two quantitative sets and one qualitative set. Students were informed that the aim of the questions was to seek information about their use of tutor-groups, cluster forums and synchronous tutorials; questions designed to determine which types of online learning and tutorial support students had engaged with. Part B was an expandable window where students were invited to offers any further points they wished to make about their experience of online learning, particularly tutor-based wikis or forums (Appendix 1).

3. 4 Data collection methods

Gaining information from students using survey methods, usually in the form of 'attitude' surveys is noted to have various shortcomings relating to the timing of surveys, student bias to personal and contexts, and the accuracy and the fact that attitude surveys are inflexible due to fixed responses (Punch, 2012). Attitude and opinion surveys are ubiquitous within education and commerce to determine views of people on how they experienced a service or lecture for example. Attitudes are defined as a "psychological tendency that is expressed by evaluating a particular entity with some degree of favor or disfavor" (Eagly & Chaiken, 1993, p. 1). Attitudes also involve an appraisal of personal feelings, contextual influences and events, which can then lead to action or behaviours (Albarracin & Shavitt, 2018). Had I decided to focus solely on the modified CEQ as a data source then I could legitimately term the study an "attitude survey". The qualitative information however adds depth and breadth of information from students, best expressed in the term "perceptions" used in the title for this thesis. A simple psychological definition is "the process by which the brain receives the flow of information about the environment from the sense organs and uses this raw material to help an organism make sense of that

environment” (Statt, 1998). The term “experience” is used in a general way in this thesis to encompass both the attitudes and perceptions of students.

Materials gathered solely via the internet are a feature of technological change and innovation, although they may not necessarily improve response rates, as compared to paper surveys handed out in real-time contexts as noted in Table 3.2 (Brewer et al., 2015). Such e-surveys also need effort from the researcher and encouragement for the participants to ensure acceptable response levels (Nulty, 2008). The online survey method has been evaluated, and commonality exists with postal surveys, in that probability surveys gathered using random selection of participants are likely to be representative of the population under study. Likewise, internet surveys allow a smaller sample to be generalised to the larger population. Also, it is worth noting that e-surveys are both time-efficient and cost-effective, although generalisability can only be accurately estimated for probability samples.

Table 3.2

Evaluation of internet surveys

Strengths	Limitations
Representation of general population	Lower than postage response rates
Generalisability if probability samples	Rely on participants technological skills
Inexpensive	Training in administration of survey
Time efficient	Non-response error
Interactivity can be embedded	Wide variation in response rates
Rapid and easy data analysis	Higher non completion of items

With non-probability samples, such as those in this survey, the purpose of the data needs consideration and responses may not be representative of the larger group. The same drawbacks that postal surveys suffer from also apply to online surveys, and therefore researcher must minimise coverage error, sampling error, non-response error and measurement error (Dillman, Smyth & Christian, 2014). Response rates are something to be mindful of for all surveys and certain factors increase response rates: a) offering incentives to take part, b) feeling one is a unique contributor (hence avoid bulk emails), c) multiple contacts with respondents and d) variations in the message. However, Dillman et

al. (2014) suggested that high response rates in themselves do not indicate a successful sample capture, and instead the smaller group of non-responders might be the very participants needed; but, for whatever reason, they have declined to respond. In a synthesis of internet-based surveys a wide variation in response rates is noted, relating to the context and sample type, which suggests a need for further evaluation of this data gathering process in order to identify the response influencers (Nulty, 2008; Lin & Van Ryzin, 2012).

3.4.1 The e-survey instrument

The spine of the e-survey instrument used in this thesis was, as noted in Section 1.3 the Course Experience Questionnaire (CEQ) and a short media survey preceded this forming Phase 1 of the study. The development of the CEQ and the application of this to various courses within higher education, both campus and distance learning has been charted (Richardson, 2009a). Past findings show that the students' perceptions of their learning via the CEQ can provide evaluation of students experiences a course of study, so a useful tool in assessing how students have experienced their learning. The CEQ remains a commonly used survey instrument and has been variously integrated into research on blended learning: Ginns & Ellis (2007, 2009); Denson, Loveday & Dalton (2010); Grace et al, (2012); and more recently with a focus on cross-cultural validity of the instrument (Law and Meyer, 2011; Yin, Wang & Han, 2016).

A suitable questionnaire focusing specifically on a survey of distance learning students' online experiences had not materialised during the early stage of the literature review. The argument for using a well-established instrument to overcome many of the difficulties in questionnaire design is noted (Cohen, et al., 2011; Punch, 2012). The tried-and-tested CEQ evolved from university faculties in the UK, and later modified from usage as a performance indicator for university Faculty in Australia by obtaining data on students' experience of their learning in their final undergraduate year of study (Ramsden, 1991). The original CEQ contained 30 items based on earlier research evidence on what factors constituted a positive learning experience for students (Wilson, et al. 1997). The original questionnaire items were divided into sub-scales of good teaching (8 items), clear goals and standards (5 items), appropriate workload (5 items), appropriate assessment (6 items) and finally independence in student approach to study (6 items). To avoid response

bias half of the statements were presented in positive phrasing; and half presented in negative phrasing, although a flaw noted later was that the reverse phrasing was not distributed equally across the 5 CEQ sub-scales (Richardson 2005). The rationale for employing the survey is that if a course is performing well then each of the sub-scale items should 'load' onto their own sub-scale in a highly positive way. So, for example if a student rates each item of the good teaching sub-scale as 5, then this indicates high satisfaction with teaching. Checks on internal validity of each sub-scale can be made, in order to determine to what extent each of these subscales within the CEQ correlate with one another employing Cronbach's Alpha (Cronbach 1951) to determine the relationship of each score to the item scales.

Additionally, the CEQ had undergone several modifications over time, which demonstrated that it is appropriate and sufficiently robust for testing distance learning in the UK (Wilson et al. 1997; Lawless & Richardson, 2004; Richardson, 2006; Richardson, 2009b, Law & Meyer, 2011). An early modification to the CEQ was made as references to 'teaching staff' and 'lecturers' on the original CEQ were replaced by 'materials' and 'tutors. The latter two terms are familiar to distance learners and thus the CEQ's scale was converted to 'good teaching' forming a scale of six items, and 'good materials' two items (Richardson & Woodley, 2001).

The reliability and validity of the CEQ was considered before finally deciding on use. Reliability in quantitative research has three dimensions. Firstly, stability relating to consistency over time and over similar samples, b) equivalence in testing at separate times or by testing inter-rater reliability and c) final reliability as internal consistency (Cohen et al., 2011). As far as the CEQ is concerned modified versions have been used over time on similar samples of students evidencing stability over time, inter-rater reliability of the initial responses can be checked, and finally that internal consistency of the items can be established (Wilson et al., 1997). The CEQ, as noted above has items which resolve into sub-scales relating to dimensions of course experience measured by the alpha co-efficient of the sub-scales range of 0 – 1, termed Cronbach's alpha (Cronbach, 1951). This coefficient provides an inter-item correlation for each sub-scale, so items that do not correlate within a scale are rejected. The higher the correlation (for example 0.8 rather than 0.6) the stronger the relationship of items within a scale (Field, 2013). In the original version of the CEQ, the statements for each of the 36 items were constructed using feedback from students about how they perceived their experience of learning, hence

construct validity is present as each item relates to learning perceptions. The newly created sub-scale 'online skills' in this thesis was derived by listening to the what students were stating about online interaction. Thus, face validity can be assumed (Wilson et al., 1997).

Past research has used factor analysis with the students' responses on the CEQ, to provide a statistical indication of the contribution of each of the separate sub-scale to an overall perception of effective instruction. A correlation across the factors within a sub-scale is a positive sign of the students' perceptions of the overall quality of the various dimensions of their course experience. All versions of the CEQ include a final and separate item that is not collated in the initial factoring, but which acts as a measure of criterion validity; for this study it was item 37: "In general I am satisfied with the quality of (DSE212 or ED209)". The most frequent findings from distance learning CEQs are that 'good teaching' and 'appropriate assessment' correlate with general satisfaction with the programmes identified in item 37 (Richardson, 2006).

As noted in the literature review, similar work had been undertaken with campus-based students using a CEQ modified to include students' experiences of blended learning; one example being the e-Learning Course Experience Questionnaire by Ginns and Ellis (2007). However, Ginns & Ellis's modified CEQ was oriented towards a) a campus-style delivery, b) expectations of students to attend lectures and c) a different temporal framework. Hence, I modified the CEQ to "tune in" directly to the students' 'voices' regarding their distance learning experiences, to enable the CEQ to shape a more sensitive and focused element on the transition to online interaction, rather than a generalised set of statements regarding a broader assessment of blended learning.

The scale for my enquiry was devised in a similar way to the original Course Experience Questionnaire, by using the students' feedback opinions and comments on the shift to blended learning on modules ED209 and DSE212 that I noted during teaching interactions and then piloted as a stage in obtaining ethical clearance for the study. The information gained from students was refined to focus on their online experiences and collated into an 'online skills' sub-scale in Table 3.3.

Table 3.3

New Online skills scale (OS)

Q2 I gained confidence in computer-based interaction on module_____

Q6 The tutor-group forums/cluster forums helped me to complete tutor-marked coursework assessments

Q11 There was insufficient time for participation in online group forums on module_____

Q12 The tutor-group forums did not help to develop academic skills on module____

Q13 The academic benefit of participating in group forums was made clear to students on module_____

Q28 I lack confidence in contributing to online discussion about academic theory on module_____

Factor analysis is a commonly used statistical approach employed across a variety of social science, medical and technologically based disciplines as a measurement model rather than a causal model of interpretation (Howard, 2016). The chief purpose of undertaking factor analysis is to finalise a set of items to measure one or more constructs in a questionnaire. Factor analysis works by identifying a structure that underlies the relations among a set of observed variables which might be response to a questionnaire or some quality experienced by participants. These observed variables are transformed by factor analysis into a smaller set of underlying factors which indicate ways in which the original test scores might be inter-related to the underlying latent factors.

Several versions of factor analysis exist for different research purposes although prone to critique as several steps in the procedure rely on the researcher's subjective judgement and interpretation (Howard, 2016). Additionally, "there is no readily available criteria against which to test the solution" (Tabachnick & Fidell, 2014 p. 661). Howard (2016) suggests that in order to improve the quality of exploratory factor analysis the researcher needs to a) carry out a thorough inspection of the data, b) clarify reasons for the factor analytic method chosen, c) clarify value of the factor retention method, d) clarify the rotation method used and finally e) clarify the factor loading cut-off point. Developmental work is ongoing within the field of factor analysis, however, Exploratory Factor Analysis (EFA) is considered suitable for most researchers who are unfamiliar with advanced programmes such as Bayesian factor analysis (Howard, 2016).

As far as statistical analysis is concerned, factor analysis is appropriate where the data is interval, and Likert scales have been thus treated in this way although some argue that it is in fact ordinal (Norman, 2010). In this thesis as on previous runs of the CEQ subjected to exploratory factor analysis, the data is treated as interval, as the measurements of the responses are given as a scale of points in the case of the Course Experience Questionnaire, this is the following five-point scale: 5 = strongly agree, 4 = agree, 3 = not sure, 2 = disagree, and 1 = strongly disagree. Half of the items are phrased positively, and the other half are presented with negative phrasing to deter questionnaire response bias; the latter were scored in the reverse

The sample size for factor analysis has been scrutinised with the suggestion that strict guidelines are no longer relevant, as much depends on the properties of the data and the fitness of the model. For example, high communalities of variance at .70 or higher, and factorial overdetermination, where three to five variables contribute to one factor, suggest a smaller sample size will be adequate (Costello & Osborne, 2005; Fabrigar & Wegener, 2011). Rule-of-thumb measures for the ratio of participants to variables have also ranged from '5 participants to 1 variable' to '20 participants to 1 variable'. The consensus among commentators on factor analysis is for a smallest sample size to be from 200 to 500 participants, adjusted to communalities and variable-to-factor loading, and for a minimum sample size of 200 a 5-to-1 participant-to-variable ratio is needed (Howard, 2016).

The tick-box section of part A, (Appendix 1), relating to the students' informal learning, was intended to capture the extent to which students were accessing Facebook for learning and social support. Several studies in the literature acknowledged many students preferred social media in relation to their studies. As a tutor at The Open University, I was aware that each module had a student-created, 'closed' Facebook page, and students had told me they were using this for academic contact. Within the Open University, several other forums were available to support students in their learning: each faculty had a dedicated forum on the learning management system, and the Open University Students' Association also hosted a module-related forum on the same learning management system. Given that 'traffic' was low for the course-related forums that had been provided for each module, it was important to establish the distinct types of media used by students to support their distance learning. The survey had a simple tick-box in which I listed those

media with which, from student information, I was familiar; an option to name any other online media was also provided

3.4.2 Qualitative data

The rationale for giving students the opportunity to add an open comment following survey completion was with the epistemological aim of obtaining finer-grained detail about students' experiences of blended learning, to counterbalance the constraints of fixed-response surveys (Punch, 2012; Li, 2013). The open-ended responses gathered in phase 2, part B on the survey, thus provided data from which the feelings and thoughts of students about blended learning could be extracted to furnish details which might inform practice. The unstructured and free-flowing nature of the text was to be subjected to thematic analysis, adopting an interpretive approach to the written materials. This option was preferred to content analysis, which is similar to, and associated with, the quantitative analysis of textual or visual data (Marks & Yardley, 2011).

Thematic analysis was chosen to interpret the data; although and several variations of thematic analysis exist (Attride-Stirling, 2001; Guest et al., 2012; Marks & Yardley, 2011; Braun & Clarke, 2006, 2013). Early forays into textual interpretation were prone to criticism for a lack of transparency in the thematic derivations throughout the various stages of analysis (Attride-Stirling, 2001). Clearer conceptualisations and applications of thematic analysis have emerged in the literature (Braun & Clarke, 2013). The debate is ongoing regarding the extent to which thematic analysis is a research method in its own right, or is simply an adjunct to other qualitative or quantitative approaches (Fugard & Potts, 2016). The fact that thematic analysis is intended mainly as a method for analysis, rather than being a complete research framework, makes for flexibility in the ability to address any type of research question. Further, the model: a) is adaptable to different sample sizes and datasets, b) is quick and easy to learn, and c) it can be understood without specialist knowledge of interpretative methods. For example, discourse analysis has specific coding which must be designated and applied by the researcher and then deciphered by the reader (Braun & Clarke, 2013).

The data for this study concerned with inductive pattern discernment; with thematic analysis being a tool for the collation of semantic responses, rather than deeper layers of interpretative analysis (Braun, Clarke, & Terry, 2014). No *a priori* categories are used, with the study's aim being to achieve consistency and dependability for the themes, rather

than reliability. However, the researcher has to be mindful of the problem of over-generalisation of qualitative findings, together with a need for interpretive consistency; especially so with short episodes of text, as they are merely snapshots of experience and not a deep account (Onwuegbuzie & Leech, 2010).

3.5 Participants

At the time of the data gathering, the Open University had 13 regional centres, with the sample for this study being drawn from cohorts across the 13 regions. The decision was taken to focus on students studying two psychology modules across the 13 regions, rather than modules from across different disciplines as other faculties were rolling out blended learning at different times and may have had different organisational structure. The non-probability sample (Boeren, 2015) was chosen by the ‘Students Statistics and Survey Team’ at the Open University to avoid over-exposure of students to research studies. The sample included a varied geographical area, ranging from rural areas to cities. As is shown in Table 3.4 below, the number of students failing to complete the two modules was around 40% of those enrolled. The survey was distributed to 1,849 DSE212 students, resulting in a 23.90% response rate, and to 694 ED209 students, resulting in a 20.17% response rate. For DSE212, of the 503 students who began the survey 61 responses were incomplete and were excluded in the SPSS analysis, resulting in a total of 442 responses. For ED209 from the 694 students who started the survey, 19 failed to complete it and were likewise excluded from the data analysis.

Table 3.4

<i>Survey distribution and completion</i>		
Module	DSE212	ED209
Total students studying in 2012	3848	2433
Total completing module	59%	62%
Survey distributed to (<i>n</i>)	1849	694
Survey completed (<i>n</i>)	442	140
Survey completion rate	23.91%	20.17%

If the calculations advised by Nulty are applied to measure responses which consider the fully enrolled students on a module, then the response rate here is even lower at 11% (Nulty, 2008). Whilst this is not an ideal situation, it does indicate that distance learning students have high attrition rates compared to other modes of content provision

(Weller et al., 2018). In teaching practice all Open University students in the past were invited to complete an end of module survey; however, responses to this request were low at around 10% of those completing their study module. In my experience responses were confined to either: a) those who wanted to congratulate the Open University and tutors or b) those who were unhappy. Learning analytics indicated a 'tendency to respond' bias in end of module surveys made by woman, the higher educated, Caucasian and the non-disabled (Clow et al., 2019). The response rate to internet surveys may be influenced by how compliant a culture is generally or other cultural factors (Li & Campbell, 2008; Adekola et al., 2017).

Fortunately, the retained sample size remained sufficient for this research. A large sample size is desirable for factor analysis, so a separate preliminary examination of the two datasets was undertaken to establish the possibility of combining data. A multivariate analysis of variance (MANOVA) was applied to check the homogeneity of covariance of the two samples (Tabachnick & Fidell, 2014). Whilst Box's plot is significant at 0.001, the split reliability of the data shows approximate similarity in covariance with the two datasets, the largest variance being no more than four times the smallest (Howell, 2010). A separate components analysis revealed a five-factor model for ED209 that explains 46.17% of the variance and a four-factor model for DSE212 that explains 39.19% of the variance, which was determined using a parallel analysis (O'Connor, 2000). The results here suggested compatible aggregation of the two sets of module results and so the two datasets were combined to reach the range suggested to meet the sample size/dependent variable ratio for factor analysis (Kline, 1997; Field, 2013). This statistical evidence, and the fact that the two datasets came from students predominantly on a single psychology pathway of study, justified combining the two datasets to provide a robust sample size (Tabachnick & Fidell, 2014).

A total of 581 students completed all sections of the survey instrument. The gender distribution for the two modules in this research was 82% women and 18.% men, reflecting the typical ratio of men to woman studying psychology. The ages of the two cohorts in this thesis ranged from 19 to 73, with a mean of 41 years, median value of 41 years and mode of 48 years. The standard deviation was 10.5 and the range 54. The ethnic origin of students for both modules was similar being 89% White, 3% Black, 3% Asian, 2% mixed, 1% other and 2% refused. Around 14% of students declared low socio-economic status, according to Open University statistical data although how this is calculated was not

accessible due to data protection. All students would have completed two modules at level 1 study prior to undertaking level 2 study. As far as disability was declared 82 students signified a disability, and of these 31 students provided open comments regarding their blended learning experience.

One key drawback of the survey approach in this instance was that the survey only considered the perceptions of students who responded and who presumably were confident in online interaction. It is therefore reasonable to stress that this survey did not represent those students who declined to participate, had little time to spare, or who had withdrawn prior to the start of this module. Disability problems may have also been a barrier to accessing the survey. Paper surveys were offered to students, but none requested.

The smaller proportion of students who provided their feelings and thoughts in the open invitation at the close of the survey would have certain characteristics or motivation for doing so. High negative emotions were expressed by students regarding the end of module examination for one module, even though the instructions in the survey were to focus on the experience of online learning. The survey may have offered the opportunity to raise issues that could not be addressed elsewhere, as they may perceive a research study differently to, for example, end of module surveys. Some response bias was in evidence with several students opening the link to the survey but only completing the first section being the media survey, in September 2012 and then failing to revisit for completion. One can only speculate why this happened, perhaps relating to the size or complexity of the CEQ, however these responses had to be discarded.

Responses from the window in part B (Appendix 1) were obtained from 103 students who had taken DSE212 and 85 responses from students who had taken ED209. These sample sizes are large in the context of qualitative research, but within the suggested sample size of 100+, which is acceptable where the data is 'shallow'; meaning short phrases rather than interview material. The possibility of saturation is likely to be a problem, whereby the size of the sample quickly ensures a failure to produce any further relevant or new information (Braun & Clarke, 2013; Meadows et al., 2016).

The use of the term 'reliability' is contested for its relevance to qualitative research, as replicability of research and re-testing are not key aims of the type of research (Silverman, 2016). Instead concepts such as the ability of the reader to assess the dependability of the research are more important (Yin, 2016). Replication of qualitative

research is achieved by the acknowledgement of: a) the researcher's own position (professionally, socially, background influences on the perspectives taken in the research), b) clarity in the choice of participants, c) noting any relevant social contexts and finally d) clarity in the choice of method. Other ways to address reliability in this paradigm would include the extent to which similar interpretations would be made at separate times and by other researchers working within the same theoretical framework (Yin, 2011).

3.6 Procedures

3.6.1. Ethical procedures

Permission to undertake a survey with Open University students was approved by the Open University Human Research Ethics Committee (HREC) (Appendix 3). All projects undertaken by Open University employees and registered students need approval to ensure that the participants are treated in a safe and ethical manner. My dual role as associate lecturer and 'insider' research student was not deemed problematic, due to the distance my programme of study was from the sample students' programme; the proposal therefore met the criteria for internal authorisation.

An ethics review and assessment were completed for both the pilot and the main study. The pilot study was created to test the overall clarity of the survey tool and was undertaken with volunteers from the previous year's presentation: two students from DSE212 and two from ED209. Ethical and research protocols were observed during the pilot study according to the principles of The British Psychological Society (2014). The newly devised scale on online learning raised a query about the nomenclature of different forums, so changes to phrasing resulted in the final scale (Appendix 2). Also, one student queried whether a word limit should be set for the open-ended commentary to avoid too much detail going into the analysis. However, I felt that a word limit might be a barrier to students wishing to give a free and flowing response.

Following minor amendments to the pilot study, approval was confirmed from the HREC and the Data Protection Office (Appendix 3). All research must ensure the well-being and safety of participants. The careful and safe storage of any data gathered from participants also had to be ensured, as directed by the Data Protection Act (1988 replaced by the General Data Protection Regulation (Data Protection Act, 2018). Approval was also received from Paul Ramsden to use the Course Experience Questionnaire (now deceased

1948–2017) (Appendix 4) via email. The ethical guidelines applied in this study were those stipulated by the British Psychological Society Code of Human Research Ethics (2014). The necessary components in the survey followed suggestions for internet-mediated research (Association of Internet Researchers, 2012; Hewson & Buchanan, 2013; The British Psychological Society Ethical Guidelines for Internet-mediated Research, 2017). The survey tool had to include all information related to ethical and data protection matters (Appendix 1).

3.6.2 Survey distribution

The students in the sample were firstly emailed to outline the project and invite them to participate in the online survey and a hyperlink to the survey was supplied (Appendix 1). Students completed their module of study in October 2011 and were contacted just after module results were published in December 2011. Students were invited to complete parts A and B of the survey. The items in part A of the survey tool recorded students' preferred choices of online media and the responses to the modified CEQ, Part B informed students that: "This questionnaire offers you the opportunity to provide any further points you wish to make about your experience of online learning, particularly tutor-based wikis or forums." The Excel files were converted to data management files via a data-analysis package.

3.6.3 Thematic analysis

The data for thematic analysis was obtained from the expandable window in the survey where students were invited to "add any further points you wish to make about your experience of online learning, particularly tutor based wikkis or forums". The free-flow information was in the second half of the survey (part B phase 2) and the analysis of these student responses was undertaken prior to the analysis of the quantitative data to deflect and control for researcher bias in interpretation of the responses and improve inference validity (Papadimitriou et al., 2013). The students' responses were cut and pasted from Excel data sheets for both modules and were combined to supply the text from the 188 open-ended statements. A thorough familiarisation of the transcripts was carried out, highlighting points that might be related to the research question (Silverman, 2016). On reading the transcripts the general impression was of a passionate and informative response regarding the 'highs' and 'lows' of the students' blended learning experience, with

additionally other matters of student concern relating to the more general experience of the module. Once familiarisation with the qualitative data was attained this was organised into units of analysis: complete phrases of no particular length, obtained from each open-ended statement in order to encapsulate key items from transcripts. The procedure for coding was followed as prescribed using selective, data-driven coding. The coding was operationalised by adopting an exclusive coding unit; where phrases contained two or more topic areas they were split and then the data was divided into basic sections using varied coloured typing to differentiate the broad themes by consulting a range of texts for ideas: Saldaña (2009), Silverman, 2016, and Braun and Clarke (2013).

Colour coding (not shown) was used on the raw data to aid the separation of the different areas of students' experience, bringing comments about the different areas of online learning to the fore. Each statement was examined, and a code was devised to capture the essence of the experience from the transcript. Fifty codes were derived from the original sample (Appendix 5), a process during which: a) it was noted where overlaps occurred, b) a merging of codes was suggested, or c) where codes were distinct, suggesting potential for what is termed a 'candidate theme' (Braun & Clarke, 2013, p. 226).

Managing the organisation of the coding met with some challenges due to the mixed and lengthy nature of some of the comments. Hence, comments made about learning in general were filtered out, as at this stage they were less central to the focus of online learning. I also noted that whilst a proportion of students made either positive or negative binary statements about blended learning, others supplied very mixed reviews. In total, 21 candidate themes were named, following an iterative process of immersion in the coding and texts and being mindful to detect features that provided rich information about the online interactional aspects of blended learning. The candidate themes were then explored to establish that they represented the 50 items obtained from the initial coding and to see if the selected themes 'told the stories' contained in the data and formed faithful accounts, being mindful to avoid placing emphasis on 'noticings' which is a bias to one's own views or situation (Braun & Clarke, 2013, p. 236). Thus, the candidate themes were examined: a) to determine where merging could take place, b) where they could possibly to be tessellated to shape the final themes, and c) where the themes might need to be abandoned as these were unlikely to help inform practice (Appendix 6). The candidate themes were clustered together to form three lateral themes, being the next stage in

thematic analysis (Braun & Clarke, 2013). The three lateral themes are shown in Table 3.5: “joys of blended learning”, “risks and disappointment” “students’ preferences”.

Table 3.5

<i>Three lateral themes derived from the candidate themes</i>		
Joys of blended learning	Risk and disappointment	Students’ preferences
Positive interaction	Skills lack	Group size
Reduced isolation	Feelings	Tutor skills
Access to resources	Interpersonal relationships	Time related issues
Enabling tutors	Tutor moderation	Study options
Academic support	Technical issues	Disability access
Flexibility	Access - design	Improved technology
Autonomy	Assumptions	Autonomy in learning

The final stage of thematic analysis is to consider ‘producing the report’; whereby a convincing ‘story’ relating to the data should emerge according to Braun & Clarke (2006, p. 93). Consideration was then given to how the lateral themes combined to provide two key overarching themes. This was decided in tandem with the findings from the quantitative study and is explained in Section 4.5. One key overarching theme was designated “choice and autonomy” and the second overarching theme threading through the lateral themes and CEQ feedback was the need for students, tutors and those involved in delivering to blended learning to audit and develop the range of skills to support online interactions cumulating in the choice of theme “skills development.

3.6.4 Factor analysis

The CEQ version used for this study was the version provided by Richardson, Long & Woodley (2004) which was 36-items, originally having a sub-scale for employability skills termed “generic” skills (Appendix 2). As employability skills are not of concern in this thesis, the generic skills sub-scale was removed, replaced by an online skills sub-scale. Exploratory factor analysis was chosen to analyse the CEQ, as it is suggested that during the preliminary stages of a research project exploratory analysis can be used to consolidate variables or to generate hypotheses (Tabachnick & Fidell, 2014).

The CEQ used in this thesis consisted of 36 items in seven sub-scales, which reflected different aspects of students' experiences of their module: a) good tutoring (GT) six items, b) Good Materials (GM) three items, c) Clear Goals and Standards (CG) four items, d) Appropriate Workload (AW) five items, e) Appropriate Assessment (AA) six items, f) Emphasis on Independence (IN) six items, and, finally, g) online skills (OS) six items (Appendix 2). The participants had to show their level of agreement or disagreement on a scale from: 'definitely agree' rated as 5 to 'definitely disagree' rated as 1, with as previously noted half of the items related to positive items, and the other half related to negative aspects of the module which were scored in reverse. The students were assigned scores on each of the 36 items, these items were then computed to provide the mean response for each of the sub-scales, regarding their course experience, to provide a numerical interpretation of the subscales thought to be the key aspects of students' experiences. A final item is included in the CEQ Q37: "In general I was satisfied with the quality of _____ (the course)". This item is not included in the initial calculations of the items but correlated with the overall means for sub-scales. This additional item is therefore used as a measure of the internal validity of the CEQ. The total of each sub-scale composed of items is measured as a coefficient correlation with Q37.

Turning to the procedure for the analysis of the CEQ scale items, and following Howard's (2016) recommendation, firstly, the survey data was 'cleaned' by visually exploring the data. Univariate outliers are not of concern on Likert scales, as students' ratings cannot go beyond the floor or ceiling where 1 is the floor = *strongly disagree*, and 5 is the ceiling = *strongly agree* (Croasmun & Ostrum, 2011). However, Likert scales having a neutral item, which in this case was 3 = *unsure*, and generally show normal distribution (Allen & Seaman, 2011). The data was also inspected for participants' non-response and missing values. Out of the students who opened the survey the number failing to complete was 61 students for DSE212 and 19 students for ED209. On inspecting these entries these were students who had accessed the survey on 18th September 2012 but then did not complete the questionnaire. Both datasets were examined separately, and incomplete responses were removed using listwise exclusion with SPSS (Gray & Kinnear, 2012). The percentages of failed responses totalled 13.1% for DSE212 and 4.80% for ED209. The individual items forming the questions was checked for descriptive statistics of mean, mode, and standard deviation. Communalities revealed that none of the items were unique in variance all values being under 1 and all items exhibited shared variance as none of the items scored 0 using the SPSS default of principal components analysis (Field, 2013).

Items that were reverse coded on the CEQ were transformed to positive statements in order to standardise responses of the Likert scale to 5 being “definitely agree” and 1 being “definitely disagree”.

Having established that the two module cohorts forming the sample was statistically compatible and robust in size (see Section 3.5), the correlation of the measured variables was examined to check that these correlated at a minimum value of .30, if not then there is no point in factor analysing the matrix (Tabachnick and Fidell, 2014). No extreme value correlations were presented on the correlation matrix and the determinant at 1.30 suggested that thus multi-collinearity was not present (Field, 2013). The values of all the individual items on the correlation matrix was +.30. A further measure of sampling adequacy, the Kaiser-Meyer-Olkin (KMO) measure provides ranges of acceptable variance in data, and was confirmed at = 0.92, which is higher than the 0.6 value recommended, and therefore is rated as good by Howard (2016). Bartlett’s test of sphericity, which ensures that none of the questionnaire items correlate too weakly, was significant at $p < .001$, although this test is rarely insignificant (Howard, 2016; Tabachnick & Fidell, 2014). The principal diagonal of the anti-image correlation matrix of the superscript reading indicated values of 0.70 to 0.90 confirming sampling adequacy (Kaiser & Rice, 1974).

An exploratory factor analysis was conducted on the scale scores to show the number of factors to extract using IBM SPSS statistics (formerly Statistical Package for Social Sciences [SPSS]) version 22; a procedure which yielded the results presented below. After several trials exploring the factor outcomes using either principal components analysis (PCA) or principal axis factoring analysis (PAF), the latter was chosen as this considers common variance whereas as PCA does not. PAF also seeks the least number of factors and accounts for co-variation, providing a clearer overview of the factor allocation. Accordingly, PAF was conducted on 36 items using “Oblimin” oblique rotation on the SPSS programme. An initial run of the analysis on SPSS relying on Kaiser’s criterion suggested 6 factors had eigenvalues greater than 1. As Kaiser’s criterion is known to be generous in estimation of factor extraction, parallel analysis was conducted which provides 1000 random correlation matrices. Parallel analysis of the data indicated that 6 factors should be extracted (O’Connor, 2000). The default scree plot supplied by SPSS indicated a vague factor extraction with the ‘scree’ indeterminate at around 3 to 6 factors, confirming that O’Connor’s method is preferable.

Following rotation, the loadings of the pattern matrix were produced and compared to the structure matrix, however this did not indicate any numerical variation of concern (Field 2013). Parallel Analysis confirmed that 6 factors had eigenvalues greater than 1, which explained a total variance of 52.65%. The variance was composed of factors 1 (25.71%), factor 2 (8.90% of variance), and factor 3 (5.84%); the remaining three factors registered only small variance: factor 4 at 4.41%, factor 5 at 4.08%, and factor 6 at 3.70 %. Factors 1 and 2 shared the greatest variance at 34.61%. Table 3.6 shows the factor loadings following rotation; 33 of the items formed salient loadings. Factor loadings greater than 0.3 (in bold and italics) following general agreement that a cut-off point of between 0.3 and 0.4 will capture the most salient loadings for samples of 350 participants and above (Tabachnick & Fidell, 2014; Field, 2013; Howard, 2016). Only 3 values in Table 3.6 were marginally less than 0.4 so there was little to be gained by upping the cut-off point to 0.4.

Table 3.6

Factor loading for six factors measuring students' perceptions of their course experience on modules DSE212 and ED209

	1	2	3	4	5	6
q_8: You usually have a clear idea of where you are going and what is expected of you on DSE212 (CG)	.70	-.16	.03	.05	.00	.03
q_1: On DSE212, it is always easy to know the standard of work that is expected of you (CG)	.62	-.21	.01	-.07	.02	-.05
q_18R: It is often hard to discover what is expected of you on DSE212 (CG)	.60	-.10	-.01	.25	.09	.06
q_24R: The aims and objectives of DSE212 are not made clear (CG)	.46	-.01	-.08	.15	.25	.02
q1_23: The teaching materials for DSE212 are extremely good at explaining things (GM)	.38	-.08	.14	.12	.23	.03
q1_25: The teaching materials for DSE212 really try to make topics interesting to students (GM)	.29	.00	.18	.21	.14	.08
q1_22: Tutors on DSE212 normally give helpful feedback on how well you are doing (GT)	.10	-.86	-.03	-.05	-.00	.08
q1_20: Tutors make a real effort to understand the difficulties that DSE212 students may be having with their work (GT)	.04	-.82	.00	-.02	.00	.03
q1_9: Tutors on DSE212 give a lot of time to commenting on students' work (GT)	.08	-.78	-.02	-.11	.00	-.01
q1_4: Tutors on DSE212 motivate the students to do their best work (GT)	.09	-.75	-.04	.01	.04	-.02
q_31R: Tutors on DSE212 show no interest in what students have to say (GT)	-.02	-.67	-.09	.09	.01	.04
q_7R: Tutors on DSE212 often give the impression that they have nothing to learn from students (AA)	.06	-.57	.01	.16	.02	-.01
q1_35: Tutors on DSE212 make clear right from the start what they expect from students (CG)	.38	-.49	.07	-.03	.07	.00

q_29R: On DSE212, feedback on students' work is usually only in the form of marks or grades (AA)	.04	-.41	-.01	.11	.02	.14
q1_30: I have often discussed with my tutors how I was going to learn in DSE212 (IN)	-.14	-.40	.18	-.05	.07	-.01
q1_21: The students on DSE212 are given a lot of choice in the work they have to do (IN)	-.05	-.03	.69	-.02	.04	.07
q__34R: There is very little choice in DSE212 on how you are assessed (IN)	.00	.00	.51	.01	.06	.04
q1_16: Students have a great deal of choice over how they go about learning on DSE212 (IN)	.13	-.03	.51	-.03	.06	.12
q_3R: There are few opportunities on DSE212 to choose the particular topics you want to study (IN)	-.04	.02	.41	.09	.05	.01
q1_15: DSE212 encouraged me to develop my own academic interest as far as possible (IN)	.24	-.08	.36	.11	-.05	.09
q_10R: To do well on DSE212, all you really need is a good memory (AA)	.10	.10	.05	.67	-.03	.00
q_17R: Assessment on DSE212 seems more to do with testing what you've memorised than with testing what you've understood (AA)	.09	.00	.00	.65	.07	.10
q_32R: It would be possible to get through DSE212 just by working hard around exam time (AA)	-.08	-.19	.13	.46	-.08	-.11
q_26R: Too many assignments on DSE212 ask questions that are just about facts (AA)	.13	.01	-.10	.46	-.01	.28
q1_33: The module DSE212 really tries to get the best out of all the students (GM)	.27	-.20	.21	.27	.09	.04
q_12R: The cluster-group forums did not help to develop academic skill on DSE212 (OS)	-.01	.05	-.09	.00	.72	.06
q1_6: The cluster-group forums helped me to complete tutor marked assessment (TMAs) (OS)	.01	.01	.03	-.09	.69	-.11
q1_13: The academic benefits of participating in cluster	-.02	-.08	.18	.01	.37	.00

groups were made clear to us
on DSE212 (OS)

q1_2: I gained confidence in computer-based interaction on DSE212 (OS)	.11	-.03	.13	.00	.26	-.03
q_36R: The sheer volume of work to be got through in DSE212 means that you can't comprehend it all thoroughly (AW)	.00	-.02	.13	-.05	-.06	.74
q_5R: The workload on DSE212 is too heavy (AW)	.07	.03	.12	-.03	-.04	.70
q-14R: On DSE212, the syllabus tries to cover too many topics (AW)	.05	.06	.16	.17	.00	.60
q_27R: There is a lot of pressure on you as a student taking DSE212 (AW)	.14	.02	.14	-.12	-.09	.59
q1_19: Students are generally given enough time to understand the things they have to learn on DSE212 (AW)	.22	-.14	.08	-.06	.02	.54
q_28R: I lack confidence in contributing to online discussion about academic theory on DSE212 (OS)	-.04	-.05	-.08	.08	.09	.27
q_11R: There was insufficient time for participation in online cluster-group forums on DSE212 (OS)	-.11	-.05	-.11	.12	.06	.27

Loadings greater than 0.3 are in bold and sorted hierarchically.

Factor correlation matrix

Factor	1	2	3	4	5
Clear goals					
Blended learning	.38				
Independence	.33	.27			
Assessment	.24	.28	.18		
Workload	.34	.17	.18	.35	
Online skills	.09	.31	.26	.07	.07

Extraction Method: Principal Axis Factoring.

Rotation Method: Oblimin with Kaiser Normalization.

The correlation matrix between the factors shown at the appended factor correlation matrix in Table 3.6, confirms the application of oblique rotation, as the correlation coefficients all differed from zero and independence of variables. The correlation coefficients are moderate for some of the expected coefficients showing some convergence of students' perceptions of their blended learning experience overall. However, coefficients less than 0.2 are considered weak, and factors, 5 and 6 are weakly correlated with all other factors, suggesting that the specific experience of the online components of blended learning opportunities did not present as a strongly defined experience in the minds of students or the newly devised scale was problematic (Punch, 2012). Workload too is weakly related to factors 2 and 3, and may be an area to explore. Additionally, factor 4, assessment was only weakly correlated with other factors. For example, factor 5 and 6 being online skills and workload.

An overview of the descriptive statistics of the subscales can be seen in Table 4.1., p. 106. All items are within each of the sub scale are within the range boundaries. The means for each of the six sub-scales centre around the median although the range, standard deviation and mean are notably different for "blended learning" although this subscale is large and formed by 9 items. To establish the reliability and internal consistency of the scales of each of the six factors, Cronbach's alpha was employed. This calculation assesses how well each scale accounts for a single dimensional latent construct. High values suggest that the items composing a scale measure the same underpinning structure, forming a reliability factor. Table 4.1 shows that the values for Cronbach's (1951) alpha were within acceptable levels of between 0.60 to 0.88. In principle, there is no lower limit to a coefficient, although the closer the item is to 1, the greater the internal consistency of the scale (Gliem & Gliem, 2003). Skewness and kurtosis values of the six sub-scales are generally acceptable within a range of -0.1 to 0.1. "Clear goals", "blended learning" and "assessment" response bias towards positive statements in relation to items within these subscales. "Workload" however suggests a fairly negative skew indicating a response were less than positive about this area of students' experience.

Only 6 factors rather than 7 were represented in this factor analysis, as two items from good materials (GM) failed to load, while the third item from good materials loaded onto the scale for clear goals. The descriptive statistics for the combined modules are displayed in Table 4.1. The means for each of the sub-scales are higher than the central mid-value of 2.5; although for sub-scale 5 (online skills) only 3 out of the 6 items loaded. Standard deviation measures were closely clustered, and all were under 1, aside from blended learning, which had a larger value compared to the other sub-scales; an outcome perhaps influenced by the large number of items loading onto this scale. Following an examination of the correlation matrix and reliability of each of the sub-scales for the CEQ each factor, the usual procedure is for each factor to be named to represent a common higher-level construct of those items that comprised the sub-scale. The naming itself is subjective, a criticism of factor analysis (Field, 2013). On this occasion the items mainly loaded on similar patterns to previous runs and so similar names have been retained aside from factor 2, which has been changed from good teaching (GT) to blended learning (BL). Section 4.2 provides an interpretation of the Factor analysis to address the sub question relating to the quantitative data for this thesis; Has blended learning provision influenced students' experience of their learning? (Quantitative)

Chapter 4 Results and findings

4.1 Introduction

Chapter four reports on the quantitative and qualitative findings in answer to the research question “ **Can information regarding students’ experiences of blended learning help to inform practice?** This chapter provides the analysis of the two questionnaires from Phase 1, and the themes derived from the data in Phase 2.

4.2 Phase 1 Quantitative interpretation

The feedback from the CEQ provided in this section answers the quantitative sub question posed for this thesis: Has blended learning provision influenced students’ experience of their learning?

The following account shows where the items for each factor coalesced. The analysis of the aggregation of items forming each factor is as follows:

Factor 1 “Clear Goals” (CG) was comprised of six items reported on a five-point Likert scale that explained 25.71 % of the variance with factor loadings from .39 to .70. Item-level analysis indicated that little difference to the means or alpha would occur if any item from Factor 1 was deleted. As illustrated in Table 4.1, five items were the same as those previously established items for the factor structure ‘Clear Goals’, plus one item from ‘Good Materials’ Q23: *The teaching materials for Module xxx are extremely good at explaining things on.* This latter item would seem a logical factor to load onto Factor 1 reflecting the fact that students rely on module materials on the VLE, rather than teaching materials supplied by a tutor in a face-to-face tutorial. In fact, on examining the descriptive statistics of each item comprising the “clear goals” the highest item score was for Q23 at 2181/2885 perhaps indicating the good quality of the materials provided. For all items on this sub-scale the mode was four, the mean just below four, the lowest scoring item at 1791/2995 was Q18R “It’s often hard to discover what’s expected of you on module____”, which when reversed should read “that it is in fact easy to discover what is expected of you”. Other sub-scale scores fell between these scale scores, this together with the alpha

rating of .84 suggest that students had positive perceptions of the aims and objectives of both modules, the standard of work expected and finally the teaching materials.

Factor 2: *Blended learning* (BL) (formerly GT) was comprised of nine items from the Likert scale, explaining 8.9 % of the variance with factor loadings from .40 to .86. Item-total statistics indicated that little change would occur to the alpha value of .88 should an item be deleted. Individual item scores were in the region of 2000/2885 with the highest sub-scale score being Q22 “tutors give helpful feedback on how you are doing” and the lowest being 1898/2885 Q35 “Tutors make it clear right from the start what they expect from students. The mode for all response was four, aside from Q30 where students disagreed that “ I have often discussed with my tutors how I was going to learn on (module____) which was two, which would accord with the fact that students rarely had direct interaction with Open University tutors. The overall mean for all eight items aside from Q30 was also four, with the mean for Q30 being two. The responses here ‘mirror’ to some extent changes in delivery structure and this second factor shows a different composition to earlier CEQ patterns (Lawless, et al., 2004) to include five of the items relating to ‘good teaching’ and one item from ‘independence in learning’:

Q.30: I have often discussed with my tutors how I was going to learn in ____ (IN)

Two items on Table 1 loaded from ‘appropriate assessment’ (AA):

Q.7R: Tutors on _____often give the impression that they have nothing to learn from students (AA)

Q29 R On (module) feedback is usually only in the form of marks or grades (AA)

Finally, a fourth item ‘double-loaded’ onto factor 1 and factor 2:

Q.35: Tutors on DSE212 make clear right from the start what they expect from students (CG)

This re-patterning of factors is a most interesting feature of this run of the CEQ as the movement of three factors from Independence (IN), good materials (GM) and clarity in goals (CG) (the latter belonging to Factor 1 rather than Factor 2) may be interpreted in different ways. The interpretation of this loading pattern might indicate the students are perceiving a more facilitative approach in teaching or that the module materials are an improved ‘off the shelf’ package requiring less tutorial input; therefore, this factor is labelled ‘blended learning’. This composition of factor loading might take the emphasis away from students’ learning being tutor-led to one of collaboration and student activity, although the design of the module at that time did not afford any self-directed inquiry for students. Earlier runs of the CEQ factored most of the ‘good tutoring’ items as one factor

of 6 items, and as noted, good materials (GM) formed a separate factor. So here again the fact that one of good materials items loaded onto blended learning suggests that materials are associated more closely with module delivery rather than materials handed out by tutors.

Factor 3: *Independence in learning* (IN) was comprised of five items on the Likert scale and 5.84 % of the variance with factor loadings from .36 to .69. Removal of any one of the items in this scale would not have increased the alpha value any higher than the total alpha value of .70, The highest sub-scale score was 1966/2885 for Q15 “ the module encourage me to develop my own academic interests as far as possible” with a mode and mean 3.4, and the lowest 1093/2885, being Q34R “ There is very little choice on how you are assessed”, a statement student disagreed with at a mode of 1 and mean of 1.8, which should if read positivity be 5 and a mean of around 4+ . The other three means items were either on or just below the mid-point of the Likert score of 2.5. Low mean and mode scores may reflect the nature of the module design. Although the students had access to the VLE and options to interact in online learning, the structure of the modules was ‘traditional’ in that the students had little autonomy in a) the topics to study, b) choice of assessment or c) sourcing independent materials. This constraint perhaps explains the similar loading to previous CEQ runs, a point to reflect upon given that distance learning requires a different design to traditional delivery (Beaudoin, 1990; Bates, 2011).

Factor 4: *Appropriate assessment* (AA) was comprised of four items reported on the Likert scale, explaining 4.41 % of the variance with factor loadings from .46 to .67 on Table 4. 1. The removal of any of the items for the scale would not improve on the alpha value of .70. The highest sub-scale score at 2361/2885 was Q32R the reverse meaning of “it would be possible to get through (module____) just by working hard around exam time”. The lowest item score was for 17R at 1935/2885 and is the reverse of “assessment on (module____) seems more to do with testing what you’ve memorised than with testing what you’ve understood”. The mode and the mean for all items on this scale was four so quite a cohesive and consistent response from students. Table 4.1 illustrates that *in* contrast to earlier factor analysis of the CEQ this had four items rather than six expected items for appropriate assessment usual on former CEQs. As noted, two items loaded from AA onto to factor 2 and possibly related to student-centred learning in that students did not agree that tutors had nothing to learn from students.

Factor 5: *Appropriate Workload* (AW) was comprised of five items that explained 4.08 % of the variance with factor loadings from .54 to .74 on Table 4.1. The removal of any of the items for the scale would not improve on the alpha value of 0.79. The highest sub-scale score at 1905/2885 for Q19 “Students are generally given enough time to understand the things that they have to learn on (module____) with a mode of four and a mean of 3.29.

The lowest item score was Q27R 1167/2885 “There is a lot of pressure on you as a student taking (module____)” indicating a mode of one and mean of two, suggesting students agreed with this statement. Students also agreed that for Q36R “The sheer volume of work to be got through on (module____) means that you can’t comprehend it all thoroughly, again with a mode of one and a mean of two. This scale was somewhat indicating that the workload was not manageable for all students, a point to consider as online skills development requires additional time and attention a point revisited in the qualitative data.

Factor 6: *Online skills*: (OS)

Although only partially loading this sub-scale is of paramount interest to this thesis as this contains specific information about the attitudes of students to their voluntary exposure to online interaction. As noted earlier in this section, three items from the sub-scale named online skills loaded, as illustrated on Table 4.1, exhibiting correspondingly low variance at 3.70%. and these were items 6, 12R and 13, relating to the potential benefits of participating in academic learning on cluster forums. These three items coalesced to provide an alpha of 0.60, the alpha reduced to 0.50 if all six items were included suggesting a three-item factor was supported. Q12 R when reversed would read “The cluster forums helped to develop academic skills on (module____), with an item score of 1439/2885, a mode of 1 and a mean of 2.56 suggested students broadly meaning disagreed with this statement. Scores for Q 6 “The cluster forums helped me to complete tutor marked assessment” was 1482/2885, mode of 2 and mean of 2.56. Item 13 “The academic benefits of participation in cluster group forums was made clear to us” had an item score of 1550/2885, a mode of 2 and a mean of 2.68, suggesting students also disagreed with these statements.

As indicated earlier, three items failed to load with the two items relating to a lack of online confidence being Q2” I gained confidence in computer based interaction” with a mode of four, a mean of 3.24 and standard deviation of 1.12 suggesting some students has benefited from computer based interaction. Q28R, “I lack confidence in contributing to

online discussion about academic theory on (module____) if this is read in reverse then mostly students disagreed, they had confidence here, with a mode of one, a and mean of 2.5. The final Q11R “There was insufficient time for participation in online cluster group forums on (module____), had a mode of 4 suggesting that when read in reverse students agreed that there was insufficient time to participate in online interaction.

Although the items for ‘online skills’ did not load as one factor, the three items loading in relation to cluster forum learning might be interpreted as a sign that students were finding the provision of clusters marginally useful, as they contributed to module delivery and learning facilitation. On the other hand, lack of confidence in participation and the negative influence of time factors were reported by students, in that they failed to load, or have high ratings of descriptive statistics, indicating that students were not appropriately confident or time ‘rich’ for online interaction. The latter finding is unsurprising, given that this was an early stage of blended learning integration, although as shown in the literature effective time-management is the bane of most students’ lives (Kim & Seo, 2015).

A final check on students’ overall perceptions of the modules can be obtained by correlating item 37: *“In general I am satisfied with the quality of OU modules”* with each of the extracted sub-scales on Table 1. Item 37 itself provided an overall arithmetic a mean of 3.83 and mode and median of 4, the latter indicating a more positive perception both modules than the mean would suggest. Most students had positive perceptions of their blended learning experience. In past CEQ runs the final value of Q37 has been correlated with each factor to produce correlation coefficients. The results reported here are lower in comparison to previous studies in relation to Q37, where coefficients ranged from around +0.35 to +0.66 (Richardson, 2004). The following coefficients in this thesis for each factor and Q37 were a) Clear Goals +0.42, b) Blended Learning +0.41, c) Independence +0.33, d) Appropriate Assessment +0.39, e) Appropriate Workload. +0.26, and f) Online Skills +0.17. Most of the coefficients are within previous boundaries with the outcome for online skills unsurprising as three factors failed to load. What might be inferred from the quantitative results of the CEQ reported in this section is that overall the integrity of learning for both modules was sustained during the period when the transition to blended learning happened, but with a slight decrease in students’ positive perceptions overall, when compared to previously run CEQs (Wilson et al., 1997; Richardson, 2004).

Table 4.1

Subscale means, standard deviation and Cronbach's alpha

Factors	Items	Range	Minimum	Maximum	Scale Mean	SD	Skewness	Kurtosis	Alpha
CG	6	20.00	5.00	25.00	17.50	4.45	-.64	-.33	.83
BL	9	36.00	9.00	45.00	31.33	7.51	-.70	.01	.88
IL	5	20.00	5.00	25.00	13.12	3.80	.29	-.61	.70
AA	4	16.00	4.00	20.00	14.80	3.60	-.90.	.40	.70
AW	5	20.00	5.00	25.00	13.40	5.02	.84	-.10	.80
OS	3	12.00	5.00	25.00	7.765	2.60	.30	-.97	.60

 Standard error for Skewness .10 and Kurtosis .20.

Media survey

A short survey to assess the types of media students used in their studies preceded the CEQ in part A of the survey instrument (Appendix 1). The aim of providing a short survey on was to determine where students favoured interaction in their learning from the range of options available to them from both formal and informal sources. Hence, the media survey identified roughly how many students from the students' responses had accessed formal Open University provision being (email exchange with tutors, face-to-face tutorials, asynchronous cluster forums and synchronous system). Students were also invited to indicate non-formal channels they used to communicate with other students given the range of social media available and things such as self-help groups.

Overall, students in both groups seemed to prefer e-mails, with a similar percentage of just over 75%, for combined cohorts identifying this format as their chosen mode of media interaction. The second most popular option was face-to-face tutorials, with just over 65% of students attending these. Participation in tutor and cluster groups (asynchronous) was a little lower at 51%. Attendance at synchronous 'live' tutorials was markedly lower, at 19.7%. A total of 32% of students participated on Facebook. Other types of social media, such as Twitter, were accessed just a small proportion of students at 4%. Visual analysis of responses in the raw data indicated some students were involved in more than one type of interaction in their learning.

The short media survey in Table 4.2 indicates that at the time of data gathering students expressed choice was preference for asynchronous activity relating to email and electronic exchanges of notes. Oddly, some students in this thesis had completed the media survey but not the CEQ. This anomaly could be not be explained without the opportunity to explore students' reasons for failing to complete all the components of the survey. However, given that the integration of blended options using technology was at an early stage of transition in the two cited modules, and also that the provision of live tutorials was not uniform across The Open University regions, students were showing signs of wanting to engage with technology in their learning, particularly tutor and cluster forums and to a lesser extent perhaps for social support via social media.

Table 4.2

Students preferences for learning support media survey

Type	Number (%)
Emails to tutor	75.3
Synchronous	19.7
Tutor or cluster forums	51.0
Nationwide forums	38.6 (ED209 only)
Face to face tutorials	63.5
Facebook	32.4
Other (e.g. Skype, MSM)	4.1

4.3Phase 2: Qualitative interpretation

The selected examples from the qualitative data in the transcripts provided in this section answers the sub question posed for this thesis: How do students perceive online interaction?

The following subsections provide a summary of the three lateral themes identified in Table 3.5 supported by examples of evidence from the transcript. To illustrate how the students' textual responses related to the overall numerical scores on the CEQ and media survey each example of the students' statements is coded: Module DSE212 is coded DS and (ED209) is coded ED. In order to provide a sense of how the selection of statements used in this section from the qualitative feedback were related to the individual student's responses their overall satisfaction scores are included. So, for example if a student had strongly agreed with all the statements on the on the CEQ their full score would be 180 (36 questions rated at 5 strongly agree). Additionally, I have included the student's final response to Q37 question "In general I am satisfied with the quality of The Open University modules' (with a maximum rating of 5 being positive rating and 1 being negative). For example, the second statement in 4.3.1 'the forums were a useful addition to the tutorial help available' indicates that the student was on module DSE212, their overall score on the CEQ was 105/180 and their average rate of being satisfied with the quality of the module was 5/5.

4.3.1. Joys of blended learning

The feedback from the transcripts concurs with the literature reported in Chapter 2; students in this study valued the convenience of the VLE, which was the core that held

together: a) the module materials, b) forums, c) email, d) live tutorial access and e) other associated materials, which these Open University students appreciated as much as the students that were noted in the literature review (Osberg, 2013; Waha & Davis, 2014; McGill et al., 2016; Newman & Beetham, 2017). Additionally, the fact that the students did not have to travel to venues and could access the materials at any time and on different devices, were all positive aspects noted in the literature on blended learning (Rose & Ray, 2011; Bonk et al., 2006, 2012).

Hence the phrase “joys of blended learning” seemed to express the essence of students’ reporting for this lateral theme and good proportion of students reported positively on how access to technology had enabled their learning, particularly regarding access to peer and tutor support:

The forums were ideal as many people often had the same [quiries] or were confused about the same subjects as I was. (ED 39, CEQ av. 121, Sat rating 5).

The forums were a useful addition to the tutorial help available (DS 36, CEQ av. 105, Sat. rating 5).

The introduction of Elluminate was a revelation to me. Suddenly having all these other people and more than one tutor opinion was absolutely brilliant. It helped my confidence no end (DS 152, CEQ av. 94, Sat rating 5)

In some cases, not being able to attend face-to-face tutorials was countered by the forums, as was clarification of difficulty concepts on the modules:

I think the forums for me personally were very good at explaining some points that i may have not understood as I did not get the time to make the tutorials (ED 20, CEQ av. 116, Sat. rating 4).

Tutors help was valuable as I didn’t attend any face to face tutorials (DS 47, CEQ av. 105, Sat. rating 5).

Access to learning resources and convenience were also of benefit:

the tutor forums were good as they often had additional material and extra info. especially as I did not attend face-to-face tutorials it was a good way to access relevant info (ED 46, CEQ av.123, Sat rating 2).

4.3.2 Risks and disappointment

In contrast to the joys that students experience in blended learning high levels of frustration and ‘venting’ of problems were apparent in the transcripts and two persistent ideas seem to be presented; the risks to students’ learning posed by online interaction and also disappointment that their expectations seemed not to match the reality in these early forays into online interaction. Hence the theme ‘risks and disappointment’ seemed to encapsulate the more negative aspects of students’ online experience. As identified in Table 3.5, several candidate themes contributed to the lateral theme of risks and disappointment and it is here that the focus in the transcripts leaned towards the online aspects of blended learning.

One risk posed by going online for learning interaction related to the variation in the quality of interactions and the reliability of academic contributions by students to the forums and potential time wasted in searching for relevant comments; issues already noted by Osberg (2013). Cultural background may also influence participation (Shi, 2006) and group dynamics, such as social loafing (Gagne & Zuckerman, 1999).

I found it difficult to identify the best bits to read in cluster forums. Some students attached long comments that could be very insightful, well thought out and of high quality...others put up helpful links [, but] others were much less useful which meant you had to spend (waste?) time finding the good bits. (DS 33, CEQ av. 91, Sat. rating 4))

I did not use these functions – forums seemed to disappear at some point. I had used them a bit in ED209, but in the end found it unsupportive, with mostly non-useful content from people either complaining about the workload or complaining about their marks/lack of time/tutors. (DS 91, CEQ av. 115, Sat. rating. 5)

Regarding the forum, however, I am always a little cautious about placing too much faith in it because it is sometimes not always clear whether a definite opinion posted is that of a tutor or fellow student which can be an issue if I don’t necessarily agree and am then not sure if I’m wrong or they are. (ED 13, CEQ av.102, Sat. rating 2)

The forum format is not easy to read, [so] I found it frustrating and gave up trying. (DS 126, CEQ av. 111, Sat rating. 4)

Students' feelings about their experiences of online interaction had a strong presence in the transcripts for both modules. Comments indicated that several students did not feel confident about putting their thoughts into writing or participating in conversations either written or verbal. Fear of criticism and anxiety about being judged were threaded throughout the transcript all contributing to risks to self-esteem noted in this feedback, as also seen in the literature (Baxter, 2012). Some examples are:

I didn't take part in the online forums for the simple reason that I didn't want to appear unintelligent. I did look at what other people were writing, and I felt 'thick' in front of them. (DS 71, CEQ av.106, Sat. rating 4)

I didn't see much communication in my group forum. I would rather listen to a recording of [an] illuminate [*sic*] tutorial than take part in it, this is down to my lacking confidence [*sic*]. (DS 86, CEQ av. 107, Sat rating. 4)

The few times I have posted on OU official forums I have either had little response or felt that the replies were critical in their tone (ED 33, CEQ av.90, Sat. rating 3).

I find forums intimidating and do not use them because I find people discuss irrelevant things on them, so it is difficult to sort. I panic when I have ever gone on them because people seem to be worrying about things I [hadn't] thought about. (ED 105, CEQ av. 113, Sat. rating 3)

Students portrayed a certain amount of disappointment in the way the forum interaction proceeded, as far as social relationships were concerned. Despite the provision of a 'netiquette' guide to online behaviour for all modules within The Open University, this prescription did not necessarily follow through to the online communities in all situations. Several DSE212 students commented on other students' attitudes being 'militant, defensive of own opinions' or 'flooded by anxious students' a phenomenon also noted in the literature (Baxter & Haycock, 2014). One or two DSE212 students found the forums 'intimidating' or 'scary'.

The forums generally seem to be heavily used by certain individuals, there is often far too much information to read through to really benefit from them. The information on there seems to be opinion based from many of the students and often seems to be used for people to complain about their own personal problems, [with] groups of people telling each other how amazing and helpful the others in the group are[,] etc. (ED 97, CEQ av. 106, Sat. rating 4)

I found the forums more of a social network about how people were than [providing] information that was helpful. Often the information was confusing. (ED 64, CEQ av. 98, Sat. rating 4).

My experience of larger forums was mainly dealing with queries other people had in [*sic*] understanding the questions set for the assignments, rather than any of the course content. Nobody discussed any of the course content, but most people were just checking with others to make sure they had not misunderstood the question, or where to find information, etc. (ED 29, CEQ av. 117, Sat. rating 4).

The above comments relating to the perception of social relationships and behaviour in online interaction might also relate to a range of tutor's skills in moderating forums and online tutor and student presence, both essential elements in successful collaborative interaction (Garrison & Kanuka, 2004). Low levels of participation by students and tutors, and 'dead' zones which lacked any student or tutor presence, were quite frequently noted in students' perceptions:

There was not a lot of traffic in the tutor or cluster forums. I don't even know what a wiki is. (DS 32, CEQ av. 111, Sat. rating 3)

The online forum petered out once studying became more demanding. Although the tutoring was good, online there was very little engagement from both students and staff. (DS 38, CEQ av. 111, Sat. rating 5)

My tutor [didn't] use the tutor forum, I would hope that tutors contact all their students when the course starts to either ask if they would like to use the resource, or to make it clear whether the tutor intends to use it. (ED 55, CEQ av.102, Sat. rating 2).

The problem with online tutor-based learning is [that it is] very dependent on the tutor – some tutors do not get involved in wikis or forums. (ED 26, CEQ av. 105, Sat. rating 2)

Turning to consider the areas of disappointment relating to participation levels in tutor group forums, some students were drawn to the ambience and interaction of the larger regional or nationwide forums available on ED209. However, students expressed concern about moderation and management of the forums a problem also noted by students in Waha & Davis (2014).

It seemed that not enough tutors moderated them as other students' queries were often left unanswered or they were waiting for a while. The one key tutor that seemed to moderate it often gave the impression that she did not have the time to constantly moderate [and do tasks] such as condensing the number or threads. (ED 27, CEQ av. 105, Sat. rating 5).

Cluster forums can be overwhelming when some students go off on tangents and the tutors didn't really try to relate any of it back to the course, so I gave up by tma* 03 with forums [*sic*]. (DS 14 CEQ av. 114, Sat rating 5). (*tma 3 refers to Tutor Marked Assignments and each one is numbered through the module).

Student awareness of the tools which enabled online interaction varied widely, with some expressing no knowledge of wikis although most seemed aware of asynchronous forums. Some students expressed difficulty in finding the actual access point for synchronous and asynchronous activity. Students varied too in their awareness of provision of synchronous with some enthusiastically engaged in synchronous activity, although in general few students mentioned Elluminate in the transcripts:

I did not really know what the Elluminate [*sic*] forum was about. (ED 33, CEQ av.90, Sat. rating 3).

I was assigned to an Elluminate tutorial group. I did not take part, as they did not cover the things I was interested in and I did not have [a] microphone on my computer. Also, I enjoy face to face tutorials. (ED 42, CEQ av. 111 Sat. rating 1).

Where students were familiar with Elluminate technical and some interpersonal issues seemed to beset several sessions and there were booking problems for some events:

I wanted to participate in the Elluminate tutorial held just before the exam, but places were offered on a ‘first come first served basis’ [*sic*] and as I was late to register (I was initially sceptical about its value) I missed out. I was disappointed by this. (DS ??CEQ av. 106, Sat. rating 4)

I was unable to gain entry to the online forum and was unable to listen to any of the recordings for some reason. I spent valuable hours trying to access this around exam time. (DS 110, CEQ av. 114, Sat. rating 4)

I took part in two live on-line eluminate [*sic*] tutorials. There were technical problems due to the numbers of students taking part and poor understanding among students of the hardware requirements. There were a few students who were very thoughtless and ‘chatted’ among themselves online, ignoring the fact that we all had to ‘listen’ to their conversation. However, all of these problems could be addressed with more practice for both students and tutors. (DS32, CEQ av.111, Sat. rating 3)

Finally, several students felt that certain assumptions or expectations about student’s online interaction had been made in the provision of blended learning. The assumptions related to age, access to the internet, study limitations due to family and work responsibilities and students’ willingness or ability to interact online due to factors such as English as a second language and certain types of disability as the following examples show:

There is an assumption that everyone is comfortable and wants to be part of a tutor forum. Although I’m relatively young(ish!), 35, I am very uncomfortable asking a group of people I don’t know a question, or share [*sic*] my thoughts with them. I worry that I’d say something stupid and be laughed at, or that I’ve misunderstood something and said something wrong. (DS 108, CEQ av.96 Sat. rating 4)

I found the software layout and entry system a little confusing, I would strongly suggest the open uni [*sic*] could benefit from investing more time. As a disabled student [,] less is more if I can access everything easily as I need it. I would be happier to study computer systems and software is not easy to understand for everyone just yet, [a] better understanding of students [’] needs would be more helpful as well (ED 22, CEQ av.101, Sat. rating 4).

For me as a foreigner another limiting factor is language, which makes me slow comparing [*sic*] to English native speakers in most activities, and esp. [*sic*] essay writing (it takes much longer for me to get through [the] relevant material and then [*sic*] to precisely put my thoughts on paper) (DS 415, CEQ av.123, Sat. rating 5)

I have access to the internet only if I visit my parents or stay late at work, during this course I not only worked full-time but as a single parent also had the worry of my daughter having an undiagnosed heart condition. I did not participate in any forums or such like and found it awkward not having hard copies of the study guide and assignments. I do not like that it is taken for granted that internet access is available to all! (DS 46, CEQ av. 106, Sat. rating. 4)

4.3.3. Student preferences in blended learning -

To some extent this final theme reflects both the positive experiences of students in the first theme “joys of blended learning” but also works as a theme for practitioners to reflect on the remedy for some of the “risks and disappointments” that students reported in the second theme. Several students offered clear accounts of their preferences for both the online interaction and blended learning provision and seemed keen to see their experience improve. As might be predicted at this transitional phase to blended learning, some students chose face-to-face tutorials in preference to other options, although the extent to which this preference might have been influenced by ‘risks and disappointment’ highlighted in the previous section, can only be conjectured at this point. Nevertheless, the feedback from students from the survey serves to illustrate that students prefer choice in the way they learn, the type of media available to them and freedom to choose when to study. Some clear pointers about students’ online experience emerged which might help to develop teaching and learning practice.

Regarding preferences for online provision, firstly, the size of the group seemed important in relation to the comfort students although diverse preference was evidenced:

I would prefer smaller forums and some kind of tuition on how they and the wikis can be used would be helpful. They seem like a fantastic idea and there is so much potential there, especially when this type of online learning is very

isolating, but they are not being used to their full potential. (ED 97, CEQ av. 106, Sat. rating 4)

The decision to use a region-wide forum (R06) rather than smaller cluster-based forums certainly encouraged me to contribute. The forum stayed alive throughout the course, which hasn't always been the case on other courses. (DS 69, CEQ av. 98, Sat. rating. 4).

Would it be possible to have smaller allocated groups with set discussions that were attached to the tutorial process? (DS 77, CEQ av. 95, Sat. rating 4)

... I would have been more confident posting in a smaller group who had a shared tutor. One thing that I think would be really interesting and helpful to know with [ref] to online forums is how many students are involved. For example, in a tutor group. I never attend tutorials and therefore [don't] know whether [it's] something like 10 or 50 or 100 or even 200! It would make a difference to my posting if I thought the group was relatively small or massive! (ED 92, CEQ av. 195, Sat. rating 4).

As noted in the previous theme 'risks and disappointment' tutoring skills were quite frequently commented upon, with several students seemingly aware of the potential of good facilitation by tutors and how this might enhance online learning with some student offering some limited evaluation of certain types of interactive forums:

I found that the tutor group forum would have benefited from interaction with the tutor as well to scaffold our learning. In the past I have had tutors on the tutor group forum who have made invaluable contributions to our understanding of the material and have really pulled us together as a group... I feel that their contribution on the forum would be beneficial. (ED 61, CEQ av. 108, Sat. rating 4).

There was limited use of the tutor-based wikis / forums, but this could have been partially because of the make-up of the students in the group [*sic*]. From the general forum, there was a lot of useful discussion and the impression was given that some tutors were using the dedicated forums more effectively (ED 89, CEQ av.103, Sat. rating 4)

I expected to find a place to actually discuss topics, get different opinions from students and some ‘proper knowledge’ from tutors/teachers in the field. If there is such a place online, it wasn’t easy to locate. (DS 49, CEQ av.87, Sat. rating 5)

...some kind of tuition on how they and the wikis can be used would be helpful. They seem like a fantastic idea and there is so much potential there, especially when this type of online learning is very isolating, but they are not being used to their full potential. (ED 97, CEQ av. 106, Sat. rating 4).

I found the OU forums and Facebook forums useful. I liked the way the OU forums were separated into a general forum and then specific forums for each tma and for the exam. The tutor group forum was little used; was not promoted at all by our tutor. (ED 6, CEQ av.74, Sat. rating1).

I found that some forums can be confusing in the respect of too much information or opinion sometimes (ED 90, CEQ av. 110, Sat. rating 4).

Several students indicated that they would like to see the synchronous tutorials improved, and could see the potential for future interaction:

The illuminate [*sic*] tutorials need a lot more practice [*sic*] from students as well as tutors and have so far not been helpful, though I can see the potential. Once refined, I would prefer them to face to face tutorials as they would cut out the journey times. The online quizzes on the module site were really good. (DS129, CEQ av. 120, Sat. rating 4)

Tutor group forum was not well used, nor eliminate (*sic*). I did use Facebook, which was often helpful but sometimes very confusing, with conflicting information misleading me and making me doubt my own methods. (ED 114 CEQ av. 112, Sat. rating 3).

Students comments regarding time management were prolific in the transcripts and some students seemed to develop their strategies to avoid wasting time and instead focus their energies on specific module facilities or materials:

Time management was my biggest issue. It wasn’t that there was a lack of desire to join in, just that resource was so tight that I felt the forums etc [*sic*] would be distracting....I couldn’t take the risk that someone would send me off on the ‘wrong’ tangent’ [*sic*]. Therefore, I chose to take minimal part in online

discussion and stuck to the module materials and face to face tutorials. (DS 39, CEQ av. 127, Sat. rating 3)

I have never used wikis; tutor forums are too slow compared to the speed of facebook [*sic*] forums. (ED 33, CEQ av. 90, Sat. rating 3)

I have not yet been able to find forums or other forms of group discussions online: I seem to go around and round in circles and waste often precious time trying to locate the right forum. (DS 49, CEQ av. 87 Sat. rating 5)

As with all 'forums' there is a danger that the distraction and dissemination of information is more detrimental to learning and requires extra, precious time [that is] better used on 'reading the material' (ED 40, CEQ av. 112, Sat. rating 5).

As for online work, we didn't have online tutorials and I personally find that forums can be very much time consuming for not much gain (with (*sic*)the greatest respect... some people waste a lot of time on it). I am currently doing SDK 125 and they are compulsory, counting towards the grades of my TMA's and I must admit I simply do not like them as I favour face to face interaction... or even a simple phone call. (ED 3, CEQ av. 104, Sat. rating 4).

The need for social support was noted in several responses; however, very few students linked this to The Open University's provision. Although, Facebook interaction was particularly divisive in the transcripts, many students preferred, Facebook interaction, particularly for DSE212 students, noting that an eminent Open University psychologist took part on one of the forums. On the other hand, some students had good affective as well as cognitive support from their tutors, and acknowledged that other students were in similar emotional situations:

The online support with other students crying into their coursework was also a huge support. (DS 85, CEQ av. 121, Sat. rating 3)

Another student was comfortable using both Open University and Facebook forums:

I was happy to 'risk' asking naive academic questions to a smaller group than general questions to a wider group. In fact, when I did join the facebook [*sic*]

groups, around exam revision time, I found them to be sensible and supportive.
(DS 109, CEQ av. 112, Sat. rating. 5)

Quite high numbers of students sought out Facebook to undertake independent study:

The facebook [*sic*] group was used for revision by some students who set times and questions to revise together, I managed to find the time to attend a few of these but I find actually doing the revision myself works better for me and I like to practice writing before an exam rather than rely on the pc [*sic*] and keyboard.
(DS 4 CEQ av. 101 Sat. rating 4)

Social aspects such as the need to make contact with fellow students on a module of study was frequently reported on, particularly for DES212 students, who seemed to have developed a strong community on Facebook or sought other sources of support, as demonstrated in the media-related survey results in Chapter four:

The OU can either get on board and try to make them [Facebook groups] ‘official’ and help moderate them or let them run and know that (for now) they will be the preferred way people communicate with each other en masse...
Unofficial forums/facebook [*sic*] – fabulous – students [are] able to relax, feel comfortable and, most of all, [feel] supported. I was able to get help when needed, and help others when I could, all in a nice, friendly atmosphere. (DS 101, CEQ av. 106, Sat. rating 5)

A limited number of students formed self-help groups:

I joined the facebook [*sic*] group, which was fun, but also bad in regards [*sic*] to procrastination!! [*sic*] I was invited to join a Skype study group with 3 other students – this was very beneficial to learning, as was the local study group I organised. Some of the illuminate [*sic*] sessions were useful, especially ‘Dave’ (from Wales?)[...] Overall, I’m more than satisfied with my learning experience with the OU [*sic*]. (DS 12, CEQ av. 111, Sat. rating 4)

Preferences for specific media or tools to enable learning were mentioned by a few students. Several students were expecting a greater presence on visual

online interactivity and enjoyed certain types of provision on the VLE for example, an interactive online history of psychology

Personally, I like the books and although I like being able to dip into the forums if I have a particular query that I don't want to trouble the tutor with, I don't enjoy e[-]lectures, wikis or 'elearning' [*sic*] as such. (ED 109, CEQ av. 110, Sat. rating 4).

There was strong evidence that students preferred the traditional blended learning provision of face-to-face tutorials and valued their personal relationships with tutors. Many comments were made about expectations of approachability, prompt responses and supportive tutoring:

I try to participate in the on-line forums but a lot of the content is not helpful and as there is a lot of academic material to read anyway I do not feel that wading through a lot of irrelevant comments is the best use of my time. I have found face to face tutorials and email exchanges with tutors a lot more helpful and better use of my time. (DS 37, CEQ av. 100, Sat. rating.5)

I attended as many face-to-face tutorials as I could. I found they boosted my confidence. (DS 201, CEQ av. 114, Sat. rating 4)

Also, I enjoy face to face tutorials. (ED 42, CEQ av. 111 Sat. rating 1).

The most valuable resource was my tutor and emails with ousps[,] (Open University Psychology Society) tutors and students. (DS 14, CEQ av. 114, Sat. rating 5).

If it was not for the fact, I had an amazing tutor[,] I do not think I would have got through it. (DS 85, CEQ av. 121, Sat. rating 3)

One other notable area of feedback was student concerns about the end of module examination, the 'fairness' of this and the relevance to contemporary study:

The whole of the exam is still by hand, which influences the performance of the student and puts him in conditions that [,] (*sic*)for most of us that use a computer

on a daily basis [aren't] ecological [anymore; this] (*sic*) is the 21st century (ED 3, CEQ av. 104, Sat. rating 4).

The exam was a nightmare! ED 143 CEQ av. 112, Sat. rating 3).

4.4 Overarching themes

The final stage of thematic analysis is to consider ‘producing the report’; whereby a convincing ‘story’ relating to the data should emerge according to Braun & Clarke (2006, p. 93). The overarching themes are portrayed in Figure 4.1. In answering the sub question posed in this thesis “What do students’ report about the experience of online interaction? (Qualitative)” in Phase 2, my interpretation of the feedback from the two themes “student preferences” and ‘joys of blended learning’ was that choice and autonomy in learning was an important feature of blended learning, derived from several student typologies:

- a) Students who had the confidence to explore new learning opportunities
- b) Students who lacked confidence and/or skills but wanted to develop online interaction
- c) Students sought out social rather than academic support.
- d) Students who experienced a range of barriers to developing online learning
- e) Student who purposefully chose not to engage with online activity
- f) Students who wanted to retain face-to-face tutorials in addition to or instead of online interaction.

Returning to consider the Factors derived from the CEQ Factors 1 “Clear goals” and Factor 2 “Blended learning” formed the greatest part of the variance and had a clear position with regards to students’ perceptions of the transition to blended learning with majority of the students “agreeing” that their experiences of the organisation and learning

on the modules had been positive. Hence these two factors align with the theme ‘joys of blended learning’ as indicated in Figure 4.1 on the accompanying page. Factors 3 “Independence in Learning” and 4 “Appropriate Assessment” formed a diverse reaction from students indicating that for some student’s independence in learning was lacking, as noted possibly reflecting the rigid structure of the modules at that time. Students were in accord in their views about assessment with a lower than mid-point mean for assessment. Both factors complement the theme of ‘student preferences’ in blended learning and ‘feed’ into the overarching theme of “choice and autonomy” in blended learning.

The third theme ‘risks and disappointment’ in blended learning raised some interesting but concerning aspects of the students’ experiences of blended learning. Having reflected that some of the feedback was uncomfortable to acknowledge, one key theme came to mind and this was the need to develop skills for all involved in the development of online interaction: students, tutors and module designers. Hence, the overarching theme of “skills development” was devised. The following and final section offers an interpretation of how the findings from Phase 1 feed into the two overarching themes from Phase 2. Factor 5 “workload” also had a diverse response from students on the CEQ and the feedback from the transcripts indicated that many students lacked the time to engage in online work, or their time management strategies could not accommodate adopting new skills or time to find information forming a risk to learning. Hence Factor 5 integrates with the thematic theme of ‘risks and disappointment’ in Figure 4.1 Factor 6 pertaining to “online skills” partially loaded and as noted in Section 4.2 some aspects of online learning had offered students support with completing assignments, but for others posed problems with time or lack of confidence forming barriers to participation. Therefore, this factor contributes to the overarching themes of “skills development”.

The media survey has identified that students’ choice is quite wide-ranging in where they seek academic and social support. Autonomy in setting up study groups on various social media appliances is also evidenced in this short survey, contributing to the overarching theme of ‘choice and autonomy’ in learning. Some students may not ‘risk’ trying out different options for online interaction, suggesting too that overarching theme of ‘skills development’ is valid.

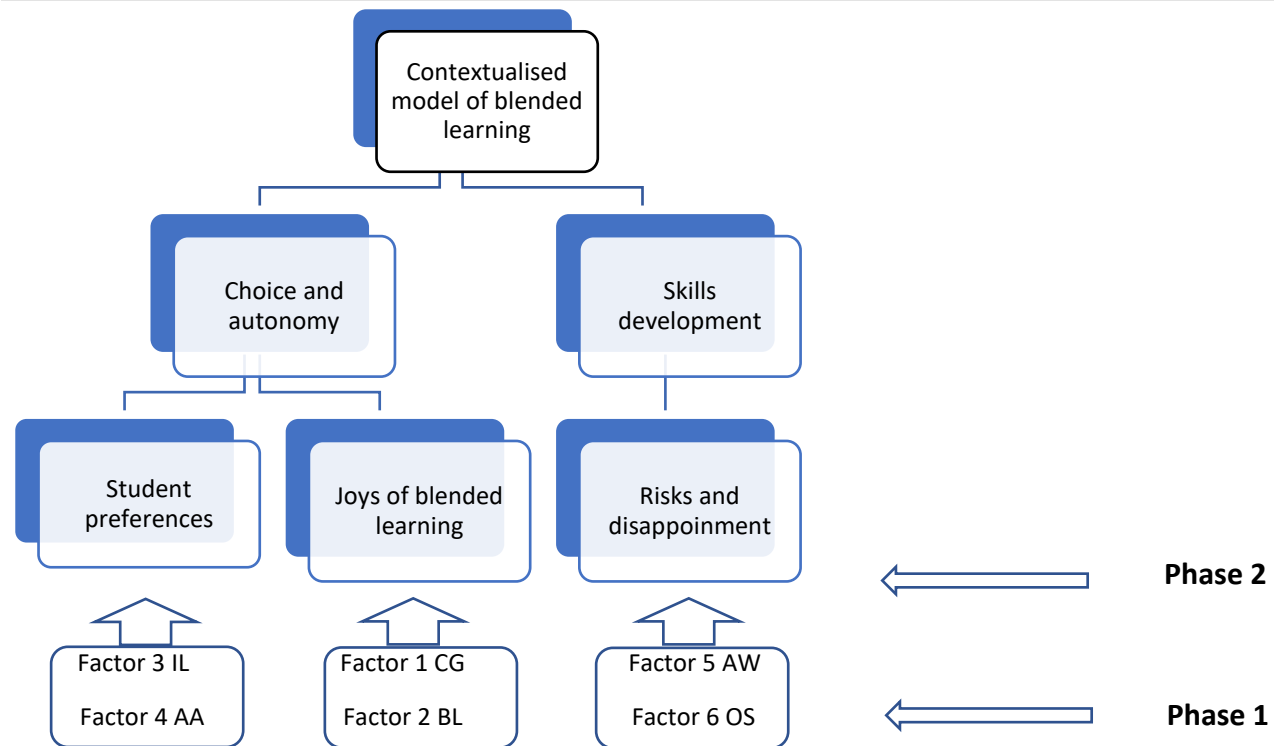


Figure 4.1 A contextualised model of blended learning Phase 1 and 2 combined.

4.5 Phases 1 and 2 combined

The overarching themes of ‘choice and autonomy’ in Figure 4.1. is an amalgam of the two lateral themes ‘student preference in learning’ and ‘joys of blended Learning’ identified in Figure 4.1. In considering the sub-theme ‘joys of blended learning’ from the qualitative feedback students expressed joy in the *enabling* features of their blended learning experience: a) positive online interaction with tutors and peers) reduced isolation, c) improved access to learning resources and d) flexibility in where and when to study. Although the findings of the CEQ could not provide this level of sensitivity in comparison to the qualitative data the factors contributing to positive blended learning experience of students were implicit in that the sub-scales clear goals (CG) and blended learning (BL) had formed the two key sources of variance in the CEQ (see Figure 4.1).

Turning to consider choice and autonomy in relation to lateral theme of ‘student preferences’ at the time of data collection, and, as noted in the analysis of the CEQ results students on both modules had limited choice or autonomy in learning in relation to assessment and materials. However, the student preference for greater choice and autonomy might be perceived in the re-patterning of Factor 2, on previous runs named “Good Teaching”, as noted in Section 4.2 additional items from scales independence in learning, appropriate assessment and clear goals. Students responding to the CEQ were aware of the benefits of working online, and indeed the opportunity to participate in cluster forums had assisted their understanding of the modules and assessment completion, evidenced supported in the sub-themes on the qualitative analysis. The fact that students preferred a range of online interaction both formal and informal was borne out in the media survey. The findings from the qualitative feedback in the lateral theme ‘student preferences’ in blended learning emphasised that choice was important in learning relating to the mode of delivery with options for both face-to-face learning and/or online tutorials. Autonomy to engage in formal or informal forum activity and choice in learning materials to match personal approaches was prominent in the feedback. Finally, the tailoring of access to online resources for different disabilities and students’ dispositions as an expressed preference.

The “risks and disappointments” theme collated the concerns raised by students about their participation in online interaction which may work to form barriers to future participation, being clarified in the qualitative feedback:

- the nature of online relationships
- skill deficits for students and tutors in online interaction;
- variation in participation levels for both tutors and students
- time factors relating to the volume of threads, and responsiveness to messages.
- locating and accessing online events and technical issues.
- assumptions about students learning
- lack of learning options and choice

The final alpha results from the CEQ presented evidence that students attributed generally lower ratings to Factors 3, 4, 5 with variance too being less although the final mean for question Q37 resulted students awarding the modules overall a mean of 4 showing agreement that “in general they were satisfied with the quality of their modules”. The failure of subscale six to load in a unified way could signal a range of issues with the actual structure of the questions, or the fact that blended learning provision with the option for online interaction was novel for most students. The lack of time for students to participate in online learning may implicitly link to the sub-scale item ‘appropriate workload’ based on responses to the CEQ from both modules, as identified in Table 4.1. Several students commented in the qualitative feedback that the workload was overwhelming, particularly leading up to the final module examination. Some students stated they purposefully avoided any novel or ‘unnecessary’ activity that might take up valuable time they could not spare.

The combined findings of Phase 1 and 2, contributing to this ‘risk and disappointment’ theme, suggest that a concerted focus on the skills required for online collaborative work was desirable forming the overarching theme “Skills Development”. The feedback from students suggests that a focus on skills would be both applicable and beneficial to students, tutors and module designers; hence, the over-arching theme ‘framework for skills development’. Although blended learning in various formats has been present in education for several decades, the findings from this study suggest that the development of teaching and learning with technology presents far more options and choice than was formerly the case. Options and choice are not only relevant to students,

but also present challenges to tutors and module designers whereby skills must be developed to enable choice and support students in their learning with technology. The literature indicated that various options and choice are available in blended learning design ranging from open design (Moskal et al., 2013; Bates, 2011; Jung, 2019) and more structured design (Krupat et al., 2016), suggesting that design *might* require to be shaped by each discipline or faculty to suit learning contexts. The following discussion proposes that the findings from the students' perceptions in this thesis offer opportunity to review the skills that both students and staff require to enhance blended learning.

The final theme 'a contextualised model of blended learning' was proposed to conceptualise the findings in this thesis and to signal a pathway to resolving some of the 'riskier' aspects of online work. The literature indicated that various options and choice are available in blended learning design ranging from open design (Moskal et al., 2013; Bates, 2011; Jung, 2019) and more structured design (Krupat et al., 2016), suggesting that design might be tailored to suit different learning contexts, explored in the following discussion.

4.6 Summary

The combined findings from the CEQ and media survey provided a 'broad-brush stroke' of the students' perceptions on their blended learning experience and aside from the failure of the scale Online Skills to load, suggest that students were satisfied with the overall quality of their blended learning for Factors 1 to 5. However, when Factors 3, 4, and 5 are more closely examined there is variation in students perceptions of their workload, the appropriateness of assessment and the opportunity to work independently, all factors which could tessellate with the lack of time to develop new skills related to online interaction. The findings from the media survey and qualitative analysis extend and deepen understanding of the students' experience of those who chose to participate in the online interaction on modules provided by The Open University in 2012 and then responded to this survey. The findings support the notion that different methods reveal different aspects of students' experience, on the one hand student had what statistically was a satisfactory experience, however, individually there were issues for many students that needed to be addressed if online interaction *was* at that time and in the future an important part of undergraduate learning. Given the expense both economic and in human effort of setting up forums, and the provision of technology to provide synchronous sessions the expectations of an enhanced learning experience was not evidenced in the findings of this

thesis. At the close of authoring this thesis, some of the issues relating to online interaction persist, and this final section provides an opportunity to reflect upon and assess current blended learning provision, in the light of these findings.

Chapter 5 Discussion

5.1 Introduction

This chapter provides an analysis of the students' responses to the combined data obtained from the e-survey. This discussion considers the findings from that transitional phase and reflection on where these findings remain relevant in current practice in order to address the research question "Can students' perceptions of blended learning help to inform practice'. Chapter 4, Section 4.5 presented the combined findings of quantitative and qualitative data from Phases 1 and 2 of this study, synthesised into a "Contextualised model of blended learning" Figure 4.1. The model at Figure 4.1. represents the students' experience, suggesting a deeper analysis of the skills required for developing online interaction is required. The two overarching themes from Figure 4. 1 'Choice and Autonomy in Blended Learning' and 'Skills Development' provide titles for the main sections in this discussion in order reflect on the key findings from the data in this thesis in relation to the literature presented in Chapter two. The key themes arising from the findings are examined in as far as the themes derived from student feedback provide possible explanations for students participating or otherwise in blended learning interaction. The evaluation of the findings are synthesised to argue that a contextualised model of blended learning is an appropriate conceptual idea to further develop blended learning practice as this encompasses the notions of student choice and autonomy aligned with the skills needed to develop blended learning pedagogy which are shaped to particular requirements rather than a general "template" provision by institutions.

The duration of this thesis has been paralleled by change within The Open University and the thinking about technology in education in the wider sphere of academia. Although change is said to be ever-present in a technological society, some important pedagogical issues raised by students in 2012 and in the literature remain relevant in practice today which are explored in this final section. One key observation arising from this thesis is that in seeking a solution to the practice issue of low student participation in online interaction fundamental questions are raised regarding the function of asynchronous and synchronous media in relation to the development of students' learning.

5.2 Choice and autonomy in learning

This key theme was composed of two sub-themes: ‘student preferences in blended learning’ and ‘joys of blended learning’, both providing accounts of students’ choices in learning. The findings of this thesis highlight that the decisions taken by students to participate in learning are shaped by choice. Students at university in contemporary times are presented with a wider range of choice in learning options compared to the era before the introduction of computers and the internet in learning. Therefore, it is no surprise on analysis to find that choice and autonomy in learning was an overarching theme derived from students’ feedback on their experience of blended learning modules from the CEQ and qualitative feedback. Firstly, turning to consider influences likely to encourage student participation in online interaction the following are some key observations relating to student participation in blended learning interaction.

Personal choice may be a factor in the likelihood of students choosing to participate in the interactional spaces of asynchronous and synchronous forums. Independence in learning and choice is promoted as a positive feature in marketing and The Open University website suggests that ‘Distance learning gives you the flexibility to study when and where you want at your own pace’ (The Open University, 2019a). However, promotional ideas, while encouraging students to think they can ‘go it alone’ may inadvertently lead to misperception about the nature of learning in higher education, and even disinclination to participate in learning aside from direct reading. For example, several students in the qualitative feedback commented that they did not need anything other than materials in order to be ‘successful’ students. This might result in failure to appreciate how other facilities or support might aid study, failure to book onto learning events or take advantage of the study support systems and guidance on the VLE. The meaning of adjectives can be interpreted in diverse ways, and the way a product is ‘sold’ sets up expectations and behaviours in consumers (Brown & Carasso, 2013, pp. 148-149). Hence, the social construction of expectations from module teams compared to student behaviour may be one factor explaining low participation.

Autonomy in learning can lead students to form self-help groups, which was in evidenced in the media survey and qualitative feedback from students. Students used Skype, Instagram and Twitter to connect with other students, no doubt today even greater

options exist outside formal provision. This autonomy in choice may also serve to deplete formal provision but with little way of assessing whether the support students seek from non-formal forums is social, emotional or intellectual, so perhaps clearer definitions of expected benefit of engagement in different media would aid future participation. This trend to self-help might on the other hand support heutagogy or connectivism as theoretical explanations for students' choice in learning (Agonàcs & Matos, 2019). Again, the notion that students' expectations and understanding of 'freedom in study' may lead to diverse ways of seeking support, not perhaps in accord with the institutional vision of how students might behave.

As noted in the literature review and in Section 1.4, there is a continuum between pure 'online' learning which does not have direct face-to-face tutorial support and blended learning which offers a certain level of face-to-face contact for students and suggesting a distinct change in approach to teaching and student activity is required when delivery shifts closer to mostly or completely online (Graham, Woodfield & Harrison 2013). Hence, clarification to students of the difference between online and blended learning at the pre-enrolment phase may aid student understanding of their entitlement in study, and the right choice of study for them; a point to consider for universities who are developing distance learning (Graham & Dzuiban, 2007 p. 743; McGill et al. 2016). Pre-enrolment information and improving the marketing of the potential benefits of engagement with the full range of options to support learning may help to increase student participation in learning activities. This message might then be further enhanced by tutors, once students are enrolled on their course of study, which to some extent is being undertaken in current practice, although perhaps still an area to further develop in practice.

5.2.1. Ambience and well-being in blended learning

A further factor potentially impacting on student participation in group learning and one not possible to detect in the CEQ findings, was the impact of the general ambience of group learning for students. Factors relating to group size, the 'feel' of the forum with regards to emotional safety and how the groups were managed were all commented on by students in the qualitative feedback and remain concerns of students in other studies on forum interaction (Griffin & Roy, 2019). Group size seemed to affect the ambience of the forums for a number of students in the qualitative feedback. However, for every student who had a positive perception of say their preference for a small cluster forum, the

opposite could be found where students preferred the ‘buzz’ of larger-sized groups, although several noted when a group became uncomfortably large such as the nationwide forum for ED209.

Over-large groups are problematic in lectures and synchronous sessions as they inhibit student participation in verbal interaction (Young & Nichols, 2017). Oversized groups question to what extent delivery can be student-centred or effectively planned for in the manner described in practitioner manuals for blended learning (Bonk et al., 2012; Vaughan et al. 2013). Research into the impact of group size on blended learning is limited with the suggestion that twenty students are the optimum numbers for learning to be facilitated in the manner of the prescribed theories of blended learning (Kim, 2013; McDougal, 2019). When students attending online events are diverse from different groups with the many of the students unknown to the tutor or tutors delivering sessions, the fostering of a ‘community of practice’ is unlikely (Baxter & Haycock, 2014). Again, an area ripe for research would be to examine how students learn in anonymous groupings of distance learning students’ delivery compared to where students are taught in groups familiar to each other and their tutor. At least one student in the qualitative feedback wanted information about the group composition and size to get a ‘feel’ of the group to assess whether to contribute or not. Anecdotally tutors themselves are also affected by the anonymity of synchronous working, particularly when groups are large, hence the tutors ‘social constructivist’ view of online work may be worth exploring as a factor in student participation.

Equally problematic were the ‘empty’ tutor and cluster group forums, lacking any student or tutor presence, which encouraged students in this study to join Facebook groups set up by students under the same module code (either ED209 or DSE212) although not officially endorsed by The Open University. This evoked some strong feelings either for or against Facebook participation from students in the qualitative feedback in this thesis with some students feeling this excluded them from the opportunity to have discourse with peers unless they too attended Facebook:

Too many discussions for all courses are now on Facebook so if you do not wish to use it you feel you are missing out. (DS 10 CEQ av. 127, Sat. rating 4)

Could not attend tutorials, so the only invaluable help was Facebook page.
(DS 54 CEQ av.121, Sat. rating 3)

As noted in the literature review, the availability of Facebook as an option for student interaction is experienced across the university sector. Students are drawn to the ambience of Facebook (Bannerjee & Dey, 2013), although the full implications of Facebook on university students learning are under-researched (Smith, 2016). Some students reported that the formal forums provided by The Open University seemed to foster peer-to-peer criticism of postings and so students sought solace on the seemingly more comfortable Facebook sites, although other students complained about Facebook hostility too. In fact, Garrison and Vaughan (2008) pointed out that informal social relationships with other students can inhibit critical thinking. Conversely, the anonymity of formal online learning provision (the opposite of Facebook) can positively aid the greater critical analysis of ideas compared to face-to-face contexts, in which face-to-face challenges to opinions can be uncomfortable. Being able to tolerate others' views and have a reasoned debate is a hallmark of metacognition, which research shows has the potential to be socially constructed within communities of inquiry (Garrison & Aykol, 2013). However, if students are ill-prepared for collaborative enquiry, they may well experience feelings of discomfort that are sufficient to turn them away from more formal experience (Nagel & Kotze, 2010; Goggin et al. 2016).). Additionally, student expectations about their role in learning may need stronger emphasis as several studies show that students needed to be 'trained' to work collaboratively and they may not be expecting student-centred learning depending on previous learning experiences (Lee & Branch, 2018 Monterio and Morrison 2014; McGill et al., 2016).

The gravitation of students to Facebook, was favoured as a student preference for many in this study in the media survey and evidenced in the literature over the last decade (Creanor et al., 2008; McGill et al., 2016). The time spent on social media might account for low or no participation on formal forums, on the other hand engagement in study away from formal provision may be a positive sign of choice and autonomy in students in seeking self-help, theoretically supporting the notion that Connectivism is evolving in contemporary learning (Sobral, 1997; Younes & Vanlaningham, 2017). However, the feedback for this thesis indicated a substantial number of students did not want Facebook interaction and various problems with Facebook security have appeared (Shane-Simpson et al., 2018; van Schaik, et al., 2018).

5.2.2 Barriers to participation

The qualitative feedback from students provided evidence of potential barriers to participation, or avoidance in collaborative communication on asynchronous forum threads, contributing to the lateral theme of “risk and disappointment” The findings from the qualitative feedback elaborated on these difficulties for example academic writing or reading online proved difficult for as the following example shows, even though this students’ scores on the CEQ were positive for the module overall:

‘ I did look at what other people were writing, and I felt ‘thick’ in front of them. (DS 71, CEQ av.106, Sat rating. 4) and ‘The forum format is not easy to read, [so] I found it frustrating and gave up trying. (DS 126, CEQ av. 111, Sat rating. 4)’

Comments regarding having to write in English when this was a second language, or with certain types of disability were also made by students. The issue of having to write down thoughts in a forum may interface with interpersonal issues raised in the literature relating to students’ sense of self-esteem, identity and online social presence, which in turn impacts on participation and successful online interaction (Smith & Smith, 2014; O’Shea, Stone, & Delahunty, 2015; Honeychurch et al., 2017; Griffin and Roy, 2019). Students also found verbal interaction difficult on synchronous forums, again related to confidence:

“I would rather listen to a recording of [an] illuminate [*sic*] tutorial than take part in it, this is down to my lacking confidence [*sic*]. (DS 86, CEQ av.107, Sat. rating 4)”

With regard to lack of time, the qualitative feedback supported the CEQ results: students did not feel there was enough time for participation in online interaction, although generally the students’ feedback on the CEQ for Item 19, “Students are generally given enough time to understand the things that they have to learn on ___”, indicated there was sufficient time to understand the things students had to learn on their modules of study. This is a situation noted in other studies on adult part-time learners whereby students had

little time to learn additional skills related to technological interaction, preferring to focus on materials and reading (Safford & Stinton, 2016). Although it was noted that even campus-based students also express a lack of time to study (Kim & Seo, 2015).

One surprising area of student activity in 2012 and prevalent in current practice but not to the fore in the literature relates to the strategy students adopt to manage the online aspects of study. Students in this thesis reported actively ‘surfing’ the asynchronous forums to scan for useful tips and information shared either between peers or between peers and tutors, downloading tutorial materials even though they had not attended any face-to-face or online synchronous tutorials. Students used “surfing” to prioritise their time and focus on the key materials and assessment, having to forego social interaction with peers or contact with their tutor:

“Time is short, and i [*sic*] prefer to invest myself thoroughly in the material, learn my way, and make notes of references from handouts i [*sic*] wish to go and research on my own, rather than get bogged down in online media, which can be a waste of time. (DS 91, CEQ av. 111, Sat rating 5)”

Whilst a strategic response to study is laudable, perhaps relating to students’ self-regulatory skills, on the other hand this may mask a lack of skills or confidence linked to non-participatory peripheral behaviour (Smith & Smith, 2014; Honeychurch et al., 2017). Nevertheless, whatever the reason for “surfing” or “lurking” behaviour, the lack of contribution to the interactional space provided can be perceived as less positive to stakeholders in blended learning and may even ‘disrupt’ the academic goals of programme of study (Bell, 2009; Skinner, 2009).

Turning to consider the students participation in synchronous forums although a new tool for tutors and students alike, several students appreciated the convenience of participating in tutorials without having to travel, particularly for certain types of disability students experience such as travel difficulties. However, various technical problems seemed to beset synchronous interaction for students in 2012 forming barriers to interaction: the booking systems precluded attendance, difficulty finding or gaining entry to the online session, too many students in attendance, distracting chat between students and poor skills in students and tutors noted aside from some of the sessions provided in the Wales region.

Many of the key issues raised by students in the theme of “risk and disappointment” in Section 4.3.2 regarding the ability of students to find access live sessions, technical and VLE design of the software are somewhat resolved by improved design, confirming that some of the reported barriers to student learning benefit from being addressed at the ‘top down’ level (Dron, Seidal & Litten; 2008, Porter et al. 2016; Meadows et al., 2016).

5.2.3 Collaborative learning – too much too soon?

As noted in the rationale for this thesis in Section 1.3 I had assumed that the provision of online forums was designed to ‘house’ collaborative interaction on the modules. Whilst collaboration did not occur on my personal tutor group forum, on the larger forums students and tutors posted messages. However, students in the feedback from qualitative data for this thesis commented on the copious messages on asynchronous threads to read before finding anything useful, a problem noted in the literature when forums lacked focus or purpose (Ioannou et al., 2015). A typical response being:

“I found it difficult to identify the best bits to read in cluster forums. Some students attached long comments that could be very insightfulothers were much less useful which meant you had to spend (waste?) time finding the good bits. (DS 33, CEQ av. 91, Sat. rating 4).”

On the other hand, students reporting on the CEQ recognised the potential of cluster forums to support their learning and indeed three of the scales for Online Skills (OS) loaded, related to the benefits of participation in forums to assignment completion. It would seem that there is some misalignment between the theories of blended learning in relation to the skills students *should* possess in order to undertake collaborate work, compared to the realities of students’ skills in their second year of study and the question might be asked of whether expectations regarding critical thinking and collaboration in Level Two students are too high or insufficiently assessed.

Research into how undergraduate students develop critical faculty indicates that little evidence of critical-thinking occurs in their first year of study and then this emerges during years 2 and 3 via a mix of research skills and tutor and peer-based discussion based on Vygotskian model of the Zone of Proximal development (Wass, Harland &

Mercer, 2011). Therefore, the expectation of module designers that students would be capable of collaborative work in Year 2, without preparation or focused task-based seems unrealistic and an area for further consideration.

One of the aims collaborative learning is the acquisition of higher-level thinking within students (Garrison & Kanuka, 2004; Salmon, 2004; Garrison & Akyol, 2013; Harasim, 2012; Moore, 2013). However, several studies recognised the difficulties that students experienced in developing collaborative engagement within campus-based students and various strategies were devised including role play and audio overlays to encourage discourse (Gašević al. 2015; Oh & Kim, 2016). The use of specific technological tools such as Padlet and Kahoot, have proved advantageous for supporting collaborative learning on campus (Young & Nichols, 2017).

Whilst innovation in learning delivery is admirable, a ‘bespoke’ approach which integrates additional technology and related tools into teaching has to be weighed against the other demands on tutors’ time for example in managing copious forum posting, archiving and splitting forum postings, and responding to students’ messages in a timely and consistent manner. Forum threads may have a place in learning; however, the practitioner needs to consider whether asynchronous forums are used as pedagogy in the manner prescribed by blended learning theorists (Harasim, 2012; Moore, 2013; Aykol & Garrison, 2011). On the other hand they may equate with ‘message boards’ which can rob time to no great intellectual advantage which was seemingly the case for students in the transcripts for this thesis, suggesting that practitioners need to critically reflect on the value of such threads to students.

The issue of low participation in distance blended learning is an ongoing problem recognised in the literature, with an average of only 25% of students on any given course or module in distance learning being active in forums (MacDonald, 2017). Low participation is seeming to be a problem where formal online interaction is expected in several studies in the literature (Stott, 2016; McGill et al., 2016; Newman & Beetham, 2017). One longitudinal and large-scale study from within The Open University suggests that similar findings affect other Faculties across undergraduate and postgraduate modules Griffin and Roy (2019). Low participation of students in online interaction not only seems to be a waste of expensive technological resources but also the opportunity for students to develop confidence in managing technology. Developing confidence in online interaction

is increasingly relevant to future career prospects and contribute to a rounded set of graduate skills on leaving university (McGill et al., 2016).

The findings in this section suggest that the re-assessment of theory and practice of blended learning would be appropriate given that in the last five to ten years of the integration of blended learning into students learning experience may not have followed the trajectory anticipated by policy makers and blended learning theorists. In practice concern about student's non-participation in blended learning persist across the university sector with the added problem of higher attrition rates for distance learning providers. In turn a reflection on skills for developing blended learning might also be re-assessed given that students responses to blended learning have to some extent been unexpected both in this thesis and in practice today. Hence section 5.3 turns to explore suggestions for skills development.

5.3 Skills development

The second overarching themes in Figure 4.1 identified as “Skills Development” was chosen, as explained in Section 4.5, as the feedback from both Phases 1 and 2 indicated that skills development for all participating in the experience of blended learning might prove beneficial to student participation. Technologically *enhanced* learning was the vision for future learning outlined in Chapter one of this thesis and aspired to by commentators and researchers on technology in higher education (Conole, 2014a). The central importance of learning design to the successful delivery of blended learning was noted in Chapter two, noting disagreement about how blended learning models should develop, with some arguing for standardisation in definition and models of blended learning design across the university sector (Halverson et al., 2014). Others argue that blended design is amorphous and the contextualisation of design, bespoke to suit provision is preferable to following a fixed prescription or ‘traditional’ idea about design (Graham & Dzuiban, 2007; Moskal et al., 2013; Vaughan et al., 2013; Rienties & Toetenal, 2016a).

Whilst it would be unfair to judge any performance during a transitional period the feedback from the students contributing their thoughts to CEQ, combined with their qualitative comments suggested that the design and delivery of modules was perhaps not catering for the diverse range of students represented in this sample. Learning design *might*

account for low or no participation in learning given the importance of constructive alignment in encouraging successful learning outcomes and the need to revisit the proposals of Student Approaches to Learning devised across at least four decades. (Ellis, 2016). This discussion provides the opportunity to assess where further improvements and development might be considered by those involved in blended learning design, theory and delivery to include tutors and module designers. .

The blended learning design of both modules in 2012 suited some students. Several students commented on the positive aspects in their development of academic learning gained from access to online discussion with both students and ‘good’ moderators. Students who commented favourably on their blended learning experience in the ‘joys’ of blended learning theme, also tended to have high CEQ scores and final satisfaction rating, as in the following quotation from participant 20, DSE 212, CEQ 110 av, Sat rating 5:

‘Excellent course. I really enjoyed it for both the challenge of the TMAs and the new knowledge that I was engaging with. There is a lot of pressure on the course, but the course material (sic) supported you with how to manage your time; gave helpful advice on how to set out TMAs and the tutors were approachable, and they were there if you needed them’

This student may already possess high levels of self-regulation, proficiency in learning, planning ability and other ‘known’ characteristics of students who successfully complete distance learning programmes (Zimmerman, 2008; Johnson, 2015; Broadbent, 2017). As noted in the literature students who exhibit high levels of self-regulation tend to be more successful than students lacking as this skill set is said to be correlated with deeper student engagement and success in blended learning study (Cho & Shen, 2013; Shea et al., 2014; Ellis, 2016). The ability of students to self-regulate was present in some in the qualitative feedback, however, nothing can be assumed about the extent to which these students represent the larger enrolled population for both modules in 2012. In any case, the notion of ‘self-regulation’ within students in relation to blended learning success is critiqued, and there is the danger of institutions overlooking their responsibility to prepare students for digital learning:

“Research is ongoing into how interventions such as early, positive experiences in the online environment, or positive prompts throughout learning activities, may impact on learners’ perceptions

of their own efficacy and their motivations to persist and succeed”
(McGill et al., 2016 p.12).

As the above quotation indicates, blended learning can be challenging for certain cohorts of students, many of whom may not have even responded to the survey in this thesis (Butcher & Rose-Adams, 2015; Safford & Stinton, 2016; Clow, Coughlan, Cross et al., (2019). For the students who did respond the following information focuses on aspects of tutoring and module design that might be considered as areas to develop in order to encourage students’ participation in blended learning interaction, although students may be undertaking profitable learning or gaining support in non-formal spaces.

5.3.1. Reconceptualising the tutor’s role

Interestingly, a substantial number of comments in the qualitative feedback in this thesis focused on tutor qualities generally, despite asking students to focus on “online learning” relating to tutor managed forums and wikis in the invitation on the survey tool. Additionally, the several items from ‘Good Teaching’ contributed to the students Blended Learning Factor 2, with variance for this Factor in second position following on from Clear Goals in the CEQ feedback. The importance of the tutor’s role accords with the blended learning theorists view whereby the tutors’ role is central to the fostering of communities of practice, higher level thinking in students, and the overall quality of student participation and engagement in their learning (Garrison et al., 2000; Ginns & Ellis, 2007; Moskal et al., 2013). Hence a section devoted to how the tutors’ role might encourage or discourage student participation in their learning is now considered.

In the qualitative feedback variation in the quality and purpose of forum interaction seemed to pivot around the tutor’s role for quite high numbers of students in the qualitative feedback, and indeed the CEQ garnered positive weightings for the Good Teaching scale within Factor 2 ‘blended learning experience’ reported in Section 4.2, which may indicate that teaching was for some students shifting to facilitation rather than instruction. The students also appreciated the academic benefits of participation in cluster forums and that they aided the development of academic skills noted on the online skills (OS) sub-scale. However, the CEQ does not provide evidence of whether the support was ‘instructivist’ or student-centred (O’Neill & McMahon, 2005). Several students in the qualitative feedback reported positively on how the tutors had managed group dynamics and ‘scaffolded’

discussion to enable students' thinking to develop (Wass et al., 2011; Sharma & Hannafin, 2004). The ability to successfully 'scaffold' students' learning is proposed to be an essential feature of facilitated learning (Gašević, et al.2015). Online environments provide even greater challenges to teaching staff than traditional environments and Girasoli & Hannafin (2007, p. 1678) propose:

“The need for scaffolding is perhaps greatest in ill-structured environments. Unlike well-structured problems that have clear goals and a constrained set of rules for arriving at a solution, the learning goals of an ill-structured problem are not well defined and the rules for solving the problem are less obvious.

The lack of clear goals or purpose for students participating in the asynchronous forums was a disappointment noted in the qualitative feedback, and students indicated that the forums lacked a focus or direction, although some students were able to identify when forums were well-managed as noted in Section 4.3. Students also noted, and were highly complementary when tutors undertook 'traditional' roles well, preferring face-to-face events and one-to-one email contact, so some students may prefer “instructivist” teaching or not be aware of the power shift in the role of tutors and students in facilitative learning (O'Neill & McMahon, 2005). This is unsurprising given that reports suggest that tutors in higher education do not seem too clear about their own role with the proposals that they either teach in the way they were taught (Salmon & Wright, 2014) or espouse models they do not apply in practice (Price et al., 2016).

Student expectations regarding their learning are important for tutors to manage because expectations influence student participation noted in one recent qualitative study where tutors who claimed to practise student-centred learning, argued that this was largely ineffective due to the passivity of students. The students' expectation of learning was 'instruction' rather than shared dialogue and interactivity. The tutors in this study were unsure of the reasons for this student response (Campbell, Gallen, Jones and Walshe, 2019). Campbell et al. (2019) suggest two key areas to reflect on: the avoidance of assuming that online teaching is a direct replacement for 'face-to-face' although this was noted much earlier in research on blended learning design, (Beaudoin, 1990; Bates, 2011; Rose & Ray, 2011; Salmon & Wright, 2014). Greater attention to providing a more rigorous and robust approach to supporting students in their first year of study was deemed

essential by Campbell et al. (2019) relating to learning design and discussed next in section 5.3.2.

At the time of data gathering for this thesis students received a structured learning experience perhaps tending to foster tutor-dependency and instructivist approaches as self-direction in learning options was not a feature of curriculum design in these distance modules, suggesting a design issue (Bedouin, 1990; Bates, 2011). However, even when tutors strove to develop student-centred teaching this did not always engage or improve students learning in the way theory anticipates, and in one reported case the shift to blended learning increased students demands on the tutor, particularly his online availability to answer queries, rather than autonomy in students (Stott, 2016).

In a similar way to Stott's study, several students in this thesis commented that tutors did not sufficiently input into students' online learning, shown by low or slow tutor responses to forums, or generally being unobtainable a problem not confined to The Open University students' experiences (Waha & Davies, 2014; O'Shea, Stone, & Delahunty, 2015). Tutors at the time of this study were acclimatising to blended learning and perhaps as I did, lacked guidance as to when to input into forums. Since then evidence-based practice has been ongoing at The Open University and various ideas shared about managing forums and when to interject in students' threads. On some modules this has resulted in a reduction in the diversity of the tutors' role, with specific moderators employed for the duration of the module.

The extent to which familiarity with the tutor moderating a forum will induce participatory behaviour from students is not, as far as I have determined an area explored in the literature. Models of blended learning outlined in section 2.5, hinge on the fact that the tutor facilitating a group of students has a core relationship to the students in their cohort and are central to management of each module, helping to foster communities of practice (Harasim, 2012; Vaughan et al. 2013).). Tutors remain a key figure for students reducing a sense of isolation in distance learning when tutors are able to create a warm and empathetic learning environment on forums (Griffin & Roy, 2019; McDougal, 2019).

The role of tutors is proposed to continue to change within education to one of mentoring, coaching, enabling, or directing, (Snowden, Hasall & Huang, 2016; Jung, 2019) Mentoring has been shown to be an important part of ensuring students adjusted to distance

learning and can involve regular phone calls to students and the assignment of students to one tutor (McDougal, 2019). This approach has on some pre-degree modules been trialled at The Open University to help induct students into academic learning and thinking (Clifton, 2011). How tutors respond to students is a complex area to address but is strongly related to the factors highlighted in the literature review relating to pedagogical belief, training, the professional status of tutors, and structural/organisational issues (Price & Kirkwood; 2008; Price et al., 2016).

Development and change to the role of the university tutor is a feature of the Teaching Excellence Framework (TEF) in the UK. In part the TEF framework has been fostered by the changes in the higher education sector outlined in Chapter 1 relating to consumer (student) choice in higher education and competition from a global market which ultimately percolate to the dynamic of the tutor-student relationship (Snowden et al., 2016). Pickering (2014), a recipient of teaching awards in higher education for blended learning, suggests that practitioners reflect on their own learning when they plan design and teaching, however this might be questioned, given the critique of tutors' beliefs and practice in the literature (Salmon and Wright, 2014; Price et al., 2016; Englund et al., 2017). Teaching staff today have to practice heutagogy, becoming self-directed in keeping abreast with the pace of technological as digital literacy will become increasingly important for tutors and students (Agonàcs & Matos, 2019)

In summary the evidence from the transcripts in Section 4.3 suggests that variation in tutor's approaches to online interaction *may* influence students' participation in online interaction to some extent. Although some tutors have been pro-active in addressing pedagogical issues for blended learning this does not seem the case for all, perhaps influenced by their own attitudes to technology and their mindset towards the acceptance of technology in teaching (Salmon & Wright, 2014). To facilitate learning scholars are exploring ways and means of using technology to enliven and improve learning, although the skills, resource, costing and teaching contexts need to be carefully and realistically assessed as the person at the final point of delivery is the instructor or tutor, but without influence in controlling design and pedagogy (Bonk et al., 2012 p. 250; Stott, 2016). The literature suggests that the role of the tutor is being reconceptualised but requires further clarification within learning design.

5.3.2. Contextualising blended learning

The expectations and perceptions of module designers regarding students' blended learning experiences are identified as an important factor to consider in students' online participation as students in the qualitative feedback commented on the size of groups and lack of goals or focus both potential factors influencing student participation in online interaction. Whilst it is beyond the scope of to comment on how modules are constructed at least some of the issues about teaching beliefs and attitudes raised in Section 2.5 apply to module designers who by and large have taught within higher education at some point, although many are also engaged in research and not direct teaching at The Open University. It is apparent from the literature review and the students' evaluation of their blended learning experience reported in this thesis that certain skills need to be developed at certain important times in the undergraduates' learning programme to provide a foundation of skills within students that will develop and improve their learning experience over time.

Firstly, greater attention to acculturation of students to blended learning both prior to enrolment and in a detailed induction to digital studying at undergraduate level has been argued to be important (Youngblood et al., 2001; Creanor et al., 2008; Napier et al., 2011; Kift, 2009; Safford & Stinton, 2016; McGill et al., 2016; Goggin et al., 2016; McDougal, 2019). Kift (2015) provided a review of the decade of employing distinct strategies to support first-year undergraduates noting the success of Transition Pedagogy in their university to first-year undergraduate acclimatisation to blended learning. Newham & Beetham (2017) suggest that inductions need to be about safe online practice, developing an 'academic' online profile and undertaking simple exercises to induct into academic work, supporting students in the transition to university level. A first-year digital self-diagnosis check for new students is also in place at some universities (Newman & Beetham, 2017). Developing students' resilience and confidence in academic learning in their first year of study is also a key area to develop (Simons, Beaumont & Holland, 2018). This may then help to provide the foundations to develop skills for the pedagogy aligned to blended learning in the second and third year of undergraduate study (Rienties & Toetenal, 2016a).

Student-led learning analytics may aid this process via self-assessment and identification of learning goals for students. Closer electronic tracking of online activity for

students is occurring in most universities and assist both tutors and administrators to see where students are engaging with their studies but not the quality of engagement (Daniel, 2019). Neither does electronic tracking contribute to a sense of belongingness as “communities of practice” are no longer distinct units of learning and are now amorphous units of learning due to relationship and structural changes both within universities and society, for example the increase usage of Facebook in a “networked” mode of learning (Conole 2014b). Within my personal teaching the use of electronic grade calculator available for all students on their profile, whereby students can input early and mid-term grades has enabled at least some students in my cohorts to stay on track. Some universities are offering students self-referral to coaching services to help students achieve goals (Herriot-Watt University, 2019).

A second skill area across the undergraduate programme related to learning design is to strengthen clarification for both tutors and students of how the workload within the design interface with learning activities at the output end of delivery in tutorials in order to clarify the purpose of goals of online interaction Tutors in Le et al.’s (2018) study admitted to failing to give instruction or practice on collaborative work as they anticipated that this would increase already high workloads. Several items of research indicated that teaching staff lacked clarity and focus regarding the development of student learning in the interactional space and greater communication and sharing of expertise between designer and tutors than anticipated by institutions is required (Scott, 2016; Porter et al., 2016; Garrison & Kanuka, 2004; Edwards, Perry & Janzen, 2011; Youngblood et al., 2001; Baran et al., 2011).

The literature indicates that some agreed and integrated structure to module design within teams is required to shape online collaborative discussion. Where module design demonstrates constructive alignment with assessment, deeper learning and successful learning outcomes ensue and research in this area is ongoing (Ellis, 2016). The exploration of the connection between learning design and the fostering of student-centred learning was commenced in 2014 within The Open University by encouraging course design teams to ‘visualise’ the overall design of a module by focusing on learning activities rather than the traditional and linear ‘teach, practice, apply’ mode. A design template has evolved to guide module design as the mandatory module re-writes occur on their roughly 5-year cycle, although the impact on student learning and attrition rates was proposed as the next stage in the review of this creative step in design, illustrating the time-lag of design

change to practice (Rienties et al., 2017). Further research would also be needed to explore the extent to which learning design included student-tutor pedagogy and helped to support tutors' practice to student-centred learning.

Whilst not the direct responsibility of module design teams, greater emphasis and clarification of the various forms of support to students may be needed. At time of data-gathering students could access several different forums within the Open University: the Open University Students Association, the Psychology Faculty forum, two forums for each module, and a Social Sciences Forum. As tutors may no longer hold pastoral roles for students in universities clarity is needed in where student *may* seek appropriate support for academic study. Some students, as indicated in the "Choice and Autonomy" theme in Section 4.5 take on this responsibility and seek support and guidance from other sources for example, Facebook which around 28 – 36% of students in this study stated they accessed as indicated in the media survey and also a growing trend in universities (Smith, 2016). Conversely, students do not seek support and withdraw from the module without signalling to tutors or the central Student Support services that they are experiencing difficulty. Whilst retention matters are beyond the scope of this thesis lack of participation *might* signal that a student is liable to withdraw from a module and retention rates are recognised to be lower for adult distance learners (Woodley & Simpson; 2014; Deschact & Goeman, 2015).

The development of "team teaching" is inevitably more complex and ways of shaping and encouraging student participation might be explored via research. In current practice student participation in blended learning is predominately voluntary, however an element of a 'light-touch' compulsory participation for students in forum work indicates that *all* students are able to participate and contribute online when required do to so. In one Level 1 module students 'lose' 5 marks from their work if they do not provide evidence of participation in forums and ability to reflect on this, however the extent to which this influences student participation in Year 2 is unestablished. Another example on a Level 2 Psychology module now entitled, DE200, which replaced DSE212 (the module studied in this thesis), is an elegantly designed task providing evidence of students' ability to collaborate online, develop knowledge and critique of research methods, meet deadlines, and apply brevity in writing (Appendix 7). The task is compulsory for all students in order to obtain the module credit and contributes to student membership of The British Psychology Society (2014). Recent experience whereby the timing of this task has changed

to the start of the module instead of towards the close, has identified that some second-year students are unfamiliar with locating forums or peer-to-peer interaction, and expressions of student and tutor stress concerning this task seemed to be greater on the supporting forum than previously later in the module presentation. This factor illustrates the need for the monitoring of student responses as a guide to future planning. The value of utilising student feedback in module design is yet to be fully assessed but has good potential if this clarifies how design links to practice and the students' experience of learning as evidenced in a 'checklist for designers and even tutors to utilise when planning at Appendix 8, (Weller, et al., 2018).

Module design is also proposed to be a strong predictor of student's perceptions about the quality of learning relating to satisfaction (Li, Marsh & Rienties, 2016). Although Rienties & Toetenel (2016b) found little correlation between student satisfaction and student retention, their findings instead reported that retention *was* positively correlated with communication activities such as peer-to-peer discussion, even though students found these difficult and preferred the 'assimilative' activities such as reading and video-viewing. These findings suggest greater effort is required at the level of design to integrate a greater number of discursive activities compared to assimilative. Dziuban et al. (2018) continuing the tradition in the USA of focusing on student evaluation of teaching found that student satisfaction with their course, whether blended or online was strongly correlated with satisfaction of teaching delivery, which as noted is no longer the sole province of tutors but a team-designed effort. This signals that students require information about Learning Design as they continue to view tutors as central to learning satisfaction rather student-centred pedagogy. While these examples of large-scale studies are not directly focused on student participation in their learning, they support the notion that the alignment of pedagogy from design to practice influences both student perceptions of quality in learning and attrition rates.

Student feedback regarding personal preference for certain types of technological tools, was a topic related to module design, although only raised by just a few students in their feedback, but an area to explore if this improves the design teams knowledge of what features of technology offer the most beneficial learning for students.. Several students commented that the example of interactive media enabling exploration of the history of psychology, on DSE212 enlivened learning and they wanted to have this type of format increased. Tools that suited students' personal learning preferences, were also included;

You Tube and online quizzes, evidencing the scope of blended learning for addressing individualised learning (Richardson, 2015; Cheng & Chau, 2016). Textbooks were highly favoured for students in this thesis for comfort in assimilation, or if their occupation involved a high degree of computer interaction. In current practice the module replacing ED209 is now fully online, which at each new presentation raises consternation for a few students, who resort to buying a printed version at extra cost, with students citing the need for paper copy preference. There seems to be a ‘cut-off’ point for students in the extent to which they want to spend time online which may be a preference that needs to be considered in module design in addition to student preferences for online tools to aid learning.

One of the ‘problems’ for design is that technology offers the potential for far greater media options or ‘affordances’ in curriculum delivery compared to a few years ago when PowerPoint seemed revolutionary (Conole, 2014). A scan of the journals with a specific focus on technological learning evidence high levels of creativity in delivery ranging from ‘Second Life’ (Anderson, 2016), mobile device usage in lecturer delivery and tutor innovation to encourage participation (Young & Nichols, 2017). The research on student acceptance of technology shows preference for the visual attraction and interactivity of Facebook and other social media (Shane-Simpson et al., 2018). Although student preferences may not be a reliable guide as to ‘what to provide’ and provision should be empirically based practice decisions, nevertheless module designers are recognising the advantage of including gaming applications to support learning for students (Emblen-Perry, 2018). Conole (2014b) proposes that course design needs a focus on what students do online rather than their learning, so presumably for many students today gaming would be acceptable and might suit large cohorts of students today. Learning analytics are helping to analyse human patterning of activity, with future predictions that curriculum might be shaped to suit each student and simultaneously have a remedial function (Buckingham-Shum, Ferguson & Martinez-Maldono, 2019). However, until research is more conclusive in this area closer symbiosis of module design, curriculum delivery and the end application in teaching may overcome some of factors for low student participation in blended learning.

A final skills area to consider in learning design are the media and tools used to deliver the curriculum and the extent to which the design contributes to students’ collaborative learning skills. Since the data gathering for this thesis,

synchronous tutoring has become the norm, replacing a good proportion of face-to-face interaction, with the option for students' learning via recording and re-distribution of lectures is a source of debate. Lecturers at Leeds University have reported a lack of their personal and interpersonal spontaneity in the recordings they now supply for students, questioning the pedagogy of this approach (Inside Higher Education, 2019). The provision of materials on the VLE and lecture recordings has also worked to diminish attendance of students in their real-time lectures for campus-based students (Meadows, et al. 2016; Selwyn, 2016b).

Students within The Open University on some modules are currently provided with an 'empty room' recording if they miss a live session, however this may work to further reduce students participating in live events and does not provoke their interaction or thinking. Henderson et al. (2017) argue that video-reviews are a passive approach in learning, rather than being student-centred and assessment of the impact of value of passive viewing on learning outcomes could be undertaken. Research over a five-year period comparing asynchronous discussion forums to student cohorts receiving dual asynchronous and synchronous web-videoconferencing, suggested greater research is needed into synchronous communication, as the benefits of increased social presence only served to clarify goals and tasks and in fact lowered students' pass rates compared to discussion forums (Giesbers et al., 2014).

Low student participation and online interaction may also relate to particular characteristics of students and the feedback from the transcript's evidences that the access to the VLE was both inclusive and exclusive depending on students' disability. Eighty-two students declared a disability in the data for this thesis, ranging from visual impairment, anxiety issues, mental health and social disorder problems, diseases affecting manual dexterity, hearing impairment, epilepsy and several had genetic or terminal illnesses diagnosed. Thirty-one students provided written comments with some examples provided in an account of the transcript evidence contributing to the themes of "risks and disappoints" and "students preferences". In some cases, not having to physically travel to tutorials improved the ease of access to tutorial provision. On the other hand, at least one student reported a specific disability forming a barrier to their negotiating the VLE:

As a disabled student [,] less is more if I can access everything easily as I need it.
I would be happier to study, computer systems and software is not easy to
understand for everyone just yet, [a] better understanding of students ['] needs
would be more helpful as well (ED 22, 101, 4).

The area of disability and access to VLEs was noted to be under researched regarding usability and accessibility, although 10% of distance learning students declared a disability (McGill et al., 2016). A study in the USA shows that, for successful access to and usage of technological tools for a range of disabilities, designers must think about colour and font use, web-page structures, navigation, and input devices, such as drop-down features, to name but a few (Foley & Ferri, 2013). Student feedback from distance learning has helped to clarify how technology is accessed and perceived in one study with a mixed review of tutors' willingness to adjust their teaching for disability, although generally support systems were adequate (Heiman et al., 2017). Certainly, disability of one sort or another might prevent online participation this would seem an area for future investigation.

Aside from disability, online environments might work to exclude rather than include participation, due to cultural and socio-economic differences, and cultural expectations regarding tutor/student interaction where students may lack confidence or ability to interact with tutors due to socialisation norms (Tait and O'Rourke (2014; Funes & Mackness, 2018) Fears that technology in education may increase inequality of opportunities have been raised, relating to the presence of the 'digital divide', both within and between countries (Cruz-Jesus, Vicente, Bacao, & Oliveira, 2016). Students who are serving in the Armed Forces and certainly those in prison may not have access to technology, which can be frustrating for prison students and their supporting tutors, illustrating that module design has to be inclusive for these cohorts. For some students, the 'convenience' of blended learning might prove to be an 'inconvenience' in that no other provision is offered other than learning with technology (Farley & Pike, 2016). The conditions where learning takes place also impact on participation and some distance learning students have to manage their study in a range of contexts without a private study zone or sole access to computers, again impacting on participation (McFarlane & Morris, 2018).

The literature noted different ideas about the design and future projection of blended learning provision ranging from those suggesting a more open and fluid model is emerging (Bates, 2011; Reese, 2015; Jung, 2019), whereas other providers of blended learning are testing out a more problem-based and structured approach (Krupat et al. 2016; Biggs, 2016). Hence design ideas vary and blended learning can be shaped according to the context. Difficulty in the development of holistic blended learning design was noted in the literature, which for one university was a drawn-out and costly process of harmonising the views of course designer, tutors and students related in an effort to enhance learning (Meadows et al., 2016). A quicker, two-day training event to develop learning design skills for all staff was outlined in a case study of two UK universities, based on the Carpe Diem model devised by Salmon (Salmon & Wright, 2014). An evaluation of the training demonstrated that an acceleration of design skills was acquired within a short timeframe, with some cohesive team development. The need to release all staff for the session was a resource strain, and longer-term sustenance of design collaboration relied on individual commitment (Usher, MacNeil & Creanor, 2018).

Support for skills development is noted to be an essential element in blended learning staff development (Salmon & Wright, 2014; McGill et al., 2016). Whilst training in the use of VLE systems such as the Adobe Connect can be easily delivered, the adaptation to the facilitation of teaching and learning of teaching in practice varies at the micro level of practice where tutors have to manage unpredictable cohort sizes making for difficulty in differentiating teaching to cater for intellectual and dispositional differences, and disability-related differences (Newman and Beetham, 2017). Recent research within The Open University indicates that students' ability to manage their learning in a digital environment relates to the 'digital personas' of students, an area possibly ripe for fuller research and peer-review (Ellis, Gallagher, Peasgood, 2017). Hence, future design would operate to address this wider variation in the student body than was assessed in this thesis.

The extent to which students who are 'absent' from formal activity due to engaging in social media might also form a group of autonomous learners, requires further research (Bates, 2011; Jung, 2011; Chang & Lee, 2013; Ellis, 2016). Campus-based lecturers seem to be accepting of social media to augment student learning, with some actively encouraging the use of Facebook and undertaking research on this aspect (Chang & Lee, 2013; University College London, 2019). However, the use of social media in

learning raises the issue of quality in provision, inaccuracy in information and given that students pay for a learning ‘package’ the reliance external provision is questioned.

Although for students in this study Facebook was a cause of great polarity in opinion, clearly some students have strong affiliative preferences. Indeed, a key feature of the community of inquiry and community of practices outlined in the literature review is the connectedness of students and the importance of fostering strong and trusting academic relationships (Smith, Hayes & Shea, 2017). How a community feeling is achieved is an important aspect of distance learning for designers to consider. The dissociative effects of distance learning for students and tutors has been noted to be a concern, and an area which requires further examination particularly if design proceeds to purely online learning, where no face-to-face provision is given, an emerging trend in current distance learning (Reese, 2015).

Research suggests that the pedagogy *should* change with the integration of technology into learning and all the affordances on offer in the way of tools, and temporal freedom, moving away from traditional linear teaching and formal assessment based around textbooks. The challenge for higher education concerns the orchestration of change and how change is perceived by students, tutors and the interpretation of learning design (Beaudoin, 1990; Bates, 2011; Salmon & Wright, 2014; Siemens, Gašević, & Dawson; 2015). The literature in the USA, Australia and the UK illustrates ongoing investigation into blended or online learning with large scale conferences and studies organised to focus on the challenges of online learning, with some offering exciting ‘visions’ of technology in learning but not always supported by sufficient or convincing empirical evidence to transfer the vision to practice (The New Media Consortium Horizon report 2017; Garratt, 2015; JISC, 2017, 2018).

This discussion has highlighted that module design is an important facet to consider when student participation in blended learning activity is examined due to the linkage required between pedagogy, activities embedded on the VLE and the alignment of pedagogy with tutoring actions. The importance of sharing social constructs about student learning across the teams and outwards to the interactional space in varied communities is an important aspect to gained from “listening” to the social constructs of the students in this sample regarding their expectations, perceptions and experiences of online interaction.

Chapter 6 Conclusion and recommendations

In conclusion the extent to which the research question “Can information regarding students’ experiences of blended learning help to inform practice” has been addressed has an unexpected and somewhat mixed outcome. Direct solutions to encourage students to participate in interaction for practitioners such as myself have not emerged from the students’ feedback, which on the one hand is frustrating, given the time invested in addressing what was seemingly a simple practice-based question. On the other hand, the students’ feedback has identified that blended learning provision requires greater conjoined reflection and skills development between tutors and module teams. While the problem of student participation in a tutor-group forum seemed a minor, localised matter, this thesis has gone beyond the bounds of immediate practice to consider that the social construction of blended learning experience whereby expectations of those involved in a community of practice: students, tutors and module designers needed to be more closely aligned.

Although the data was gathered in 2012 and a relatively small sample compared to the numbers of students studying psychology across the regions of The Open University, the findings are presented here for assessment of their relevance to current practice by practitioner and module designers. The literature reviewed in more recent years from 2018 suggests that some of the issues relating to student passivity in “live” sessions, and lack of confidence in online interaction persist today. The extent to which students who choose not to participate in online interaction are disadvantaged is as an area to examine via scholarly research, aided by Learning Analytics.

One of the key points emerging from this study is that in blended learning the tutor-student dyad or group is no longer at the core of teaching today and students can, if they choose work directly from module materials with minimal direct support from tutors with regards to skills development aside from feedback on assignments, which may be a somewhat slow process and in need of further evaluation. Additionally, much frustration is evidenced in the literature and student feedback in this thesis when expectations regarding the processes and outcomes of online learning are either poorly

clarified or unmet. In part the solution to this research question seems to relate to a more intensive approach to skills appraisal and development for students, tutors and module designers. The second part of the solution is to re-examine the espoused theories of blended learning in the contexts of where they are delivered and at the level of study students are within their programmes. The purpose here would be to assess whether the proposed benefits of collaborative learning are in fact tangible and attainable for students. The theories considered in this thesis were devised predominately in the USA, and theories may not transfer so easily to less expressive students or students who are more or less compliant, or culturally “different” in their approach to study (Shi, 2006; Li & Campbell, 2008; Baker & Clark, 2010; Monterio & Morrison, 2014; Adekola et al., 2017).

Returning to reflect on the conceptual model introduced at the close of Section 2.7, a constellation model of expectations of blended learning, two key ideas emerge. Firstly, the expectations of those involved in module design and delivery exceed the students’ ability to undertake collaborative work in the way promoted by theorists reviewed in Section 2.5. and the conceptualisation of the community of inquiry model (Garrison & Kanuka, 2004). Although the students in this thesis were in a transitional phase to experiencing online interaction the more recent literature reviewed from 2018 suggests that problems with online interaction particularly synchronous delivery persist for undergraduate and post graduate students. Therefore, module teams involved in design and delivery might reflect on how perhaps a more ‘staged’ approach to collaborative learning is embedded and contextualised across the undergraduate programme, according to the discipline students are studying if indeed research is accurate in the finding that collaborative work enhances critical thinking.

Secondly, one key issue tutors’ frequently raise in their teaching concerns is how to improve or ‘scaffold’ students’ thinking in their learning, particularly as some students query their grades when not as high as expected. The difficulty in orchestrating what would qualify as collaborative learning has been noted within the literature. Perhaps improved alignment from curriculum design to tutor on specifically defined tasks might contribute to the development of more effective collaborative effort by students on undergraduate programmes to focus and shape online learning in readiness for post-graduate and career purposes.

This thesis has also identified a wide range of factors that shape not only students' participation in their learning but expectations of what learning is or might potentially be in relation to the changing context of technology in higher education. The students' voices obtained in this thesis in 2012 are echoed in the findings of research today and suggest that students would on the whole benefit from a more concerted effort to improve induction, tracking and the development of digital skills for both novice and more seasoned learners participating in blended learning in higher education. Thus, although this thesis provides a practitioner-based interpretation of blended learning it also proposes the need for a combined scholarship approach between tutors and module designers, drawing on the students' "voice" and experience of their learning.

Not only is the need for evidence-based practice re-affirmed in this thesis, but also reflection on one's values when change occurs in wider society. This thesis has raised concerns regarding accessibility to education and one might also consider ecological dimensions to technology in education which has high replacement and maintenance costs to institutions and planetary resources (Vogt, 2016; Woodhouse, 2016). Another key ethical issue is integration of Facebook into learning which some universities actively promote, as this is already familiar as an option for interaction by students on their entry to university. The allegiance to a corporate model may not be healthy in a democracy, particularly in relation to the intellectual freedom of the academic.

The sample in this thesis does not represent all students who had studied ED209 and DSE212 in 2012 and may have attracted students who were already fairly confident in their online skills due to the fact that the survey was electronic. As with all fixed response scales the question of how statements are interpreted is problematic, even more so for online surveys where the researcher is not present to answer or clarify meaning (Wright, 2005). Therefore, without the direct questioning of students, there is no opportunity to check how they have interpreted the survey questions. For example, the original scales of the CEQ were designed for campus-based students and might have logically referred to independence in self-directed learning, rather than temporal or spatial independence. In fact, several of the questions are lacking in relevance, suggesting that a design to suit distance learners is required rather than the e-CEQ originally designed for campus-based students (Ellis et al., 2009). The newly created scale for Online Skills also may have been prone to misinterpretation, particularly in the transitional phase to online interaction, so it is recommended that further qualitative work may furnish fuller details about specific

barriers to online interaction for students, for each particular setting rather due to the different interpretations and designs of blended learning.

In 2012, the year of the data-gathering for this research, there was little opportunity for students to undertake self-directed learning, with the syllabus-bound nature of distance-learning modules serving to diminish any opportunities for independence in studying, an issue noted much earlier in time with the suggestion that a radical design change was needed for distance learning by Beaudoin (1990). Although the thesis has been worked on over a lengthy period of time from 2012 to the present, the extent to which the syllabus-design has changed is open to consideration for each design team. In current teaching on four modules, there is evidence that design is slowly changing to offer students some limited opportunity to autonomy in research and learning, however the quality of the outputs may require further exploration. Also, the question of the extent to which students gain in their learning or can manage a more fluid learning experience as advocated by blended learning theorists requires further evaluation.

Qualitative analysis is prone to subjectivity and the social constructs of the person undertaking analysis (Silverman, 2016). As noted, care was taken to analysis the qualitative excerpts from the survey prior to the factor analysis of the CEQ, to avoid being biased by the quantitative findings. However, my own perceptions may have no doubt influenced the interpretation, and ideally this could have been subjected to inter-rater assessment. The fact that the focus of this study was on online interaction meant that some of the feedback from the transcripts had to be excluded, despite the fact this may have also been important to the overall assessment of the students' perceptions and experiences of blended learning and indeed there was much commentary on the ED209 examination. The need to combine the findings of the two Phases was a challenge initially involving several attempts at formulation to arrive at Figure 4.1., a contextualised model of blended learning.

The contribution to knowledge is an important outcome to note in addition to actual findings of the thesis (Burgess, Sieminski, & Lore, 2006). I was surprised by the candour of some of the feedback and my personal perceptions of blended learning delivery have changed over the duration of this thesis, viewing the development of technology in learning as a 'work in progress' which can be shaped to greater extent than I thought possible, rather than being somewhat constrained by theoretical models and hierarchies within education itself. New hierarchies within education have been created by technology,

changing the role of tutors directly involved in teaching, and arguably handing greater power to students, who may however lack ease in the acculturation to academic learning and unable to express consumer choice.

The fact that that all answers to the pedagogy of blended learning are not as yet forthcoming is unsurprising given the added complexity of technological design and delivery. As noted in Section 1.1 the expectation of a smooth and uniform change in a system undergoing fundamental reorganisation, such as the ongoing technological innovation in society is possibly a flawed assumption according to advocates of complexity theory. As with any notable change to practice the willingness to participate and engage in change with varies between practitioners and students, due to a range of personal variables and attitudes, which might appropriately be addressed by an evidence-based approach to teaching and learning.

Recommendations

This thesis acknowledges the amorphous and ambiguous territory of technology in learning when considering students' response to interactional space, and the need to focus on how students operate in these spaces rather than fixed definitions or prescriptions for practice noted much earlier in 'variation theory' (Oliver & Trigwell, 2005). Therefore, a contextualised model of blended learning would ideally be structured so that it encompasses a range of variation, options and the need for community in blended learning outlined in the following recommendations. Suggested areas for further research:

Assess collaborative learning theory in situ via

- Qualitative research on students to explore/inform of the skills needed to participate in online interaction
- Learning analytics to compare student grades to when students participate in designated online learning tasks compared to those students who opt out
- examine how students learn in anonymous groupings of distance learning students' delivery compared to where students are taught in groups familiar to each other and their tutor
- use research evidence to inform students of the benefits of both online interaction and collaborative tasking in small groups

Assess the quality of asynchronous forums

- Identify which type of forum activity might enhance learning via mixed methods research; interviews, data gathering of forum usage and types of messages and focus on the forums
- Identify optimum group size in relation to student feedback and the overall quality of learning against learning taxonomies

Assess the quality of synchronous delivery on student learning:

- Undertake student interviews to assess how participation influences learning and skills development
- Assess to what extent students understand the proposed benefits of participatory learning versus passive learning via surveys and interviews
- Undertake micro-analysis observation of how students interact online

Evaluate skills *progression* across the programme,

- Undertake research on first year students to establish the value of Transition Pedagogy to support students' transition to undergraduate study:
- Evaluate the design of assessment and student-centred learning to provide greater choice and *progressive* autonomy for students in their learning in relation to collaborative work
- Consider activities to consolidate learning: interactive rather than assimilative

Develop joint research and scholarship between tutors and module teams

- Undertake research on reflective accounts of blended learning teaching delivery
- Focus groups to explore effectiveness of online interaction
- Research seminars of "case studies" of examples of productive online peer-to peer interaction

Consider future research utilising focus groups with students to explore specific difficulties

- Disability access that might prevent full participation in the range of tools and spaces afforded by blended learning
- Barriers to participation for certain disabilities or student vulnerabilities.
- Language difficulties: English as a second language
- Cultural expectations of online participation and teacher/student/peer relationship

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Appendices

Appendix 1 Course Experience Survey modified 2012

DSE212 Course Experience Survey 2011-2012

Dear ^forename^

I hope you received the email invitation I sent you recently inviting you to take part in a survey. There is still time to provide your feedback.

I would like to introduce you to Valerie Bentinck who is currently undertaking a Doctorate in Education at the Open University. Valerie also works as an Associate Lecturer in Region 6 of the Open University and is interested in how the use of wikis and forums can support online student learning. Valerie is conducting a large scale survey to investigate these issues and is looking for volunteers to participate. This is an important survey, which will help us to understand how best to use these forms of technology to support student learning in the future. So please can I appeal for your support?

The questionnaire has been tried and tested within Higher Education for many years, and in this survey, it has been modified specifically to capture your experiences of online learning. The survey should take about 10 minutes to complete and the instructions are on the questionnaire. You are a volunteer in this survey and there is no compulsion to participate. Your responses will be anonymous and coded. Your participation may be withdrawn at any time. If you do withdraw from the study, your data will be deleted and disposed of appropriately. There will be no impact on the support you receive on your academic record. All results will be held in compliance with the Data Protection Act (1998).

At the end of the survey there is an additional optional invitation to participate in a telephone survey. This will be arranged at a later date. If you would like to participate in a telephone interview then please complete this section at the end of the questionnaire.

Your participation in this survey will be used to develop and improve online learning experiences for Open University students and I would like to encourage you to take part in this interesting project. If you have any queries regarding this research then please contact me (Linda Price) l.price@open.ac.uk or Valerie Bentinck v.a.bentinck@open.ac.uk. Thank you in advance for your support and time in taking part in this research.

^slink^

If you have a disability or an additional requirement that makes it difficult for you to complete the survey online, please [email the survey office](mailto:IET-Surveys@open.ac.uk) IET-Surveys@open.ac.uk, or telephone them on +44 (0)1908 652422/652423.

Thank you very much for your help.

Yours sincerely

Dr Linda Price
Institute of Educational Technology
The Open University

Data Protection Information: This project is administered under the OU's general data protection policy guidelines, which can be seen here:
<http://www3.open.ac.uk/our-student-policies/pdf/dataprotection.pdf>

The Open University is incorporated by Royal Charter (RC 000391), an exempt charity in England & Wales and a charity registered in Scotland (SC 038302)

12514A - DSE212 COURSE EXPERIENCE SURVEY 2011-2012

Welcome - Welcome

Dear ^f("forename")^. Thank you very much for coming to participate in this research study. As my research supervisor has explained, I am particularly interested in how the use of wikis and forums can support online student learning. If you would be willing to help me with this research, please confirm this on the next page. Your responses will help us understand how best to use these forms of technology to support student learning in the future. If you have any questions or concerns about participating in this project, you can contact my supervisor: Dr Linda Price l.price@open.ac.uk. If you have a disability or an additional requirement that makes it difficult for you to complete the survey online, please email the survey office IET-Surveys@open.ac.uk, or telephone them on +44 (0)1908 652422/652423. To continue, please click on the 'Next' button below.

With very many thanks for your help with this survey. Yours sincerely Valerie Bentinck

Data Protection Information. The data you provide will be used for research and quality improvement purposes and the raw data will be seen and processed only by The Open University staff and its agents. This project is administered under the OU's general data protection policy guidelines.

ConsentPage

consent - consent

Please confirm if you are willing to take part in this research project by selecting the relevant option below. At any time during the research you are free to withdraw and to request the destruction of any data that have been gathered from you. The results of any research project involving Open University students constitute personal data under the Data Protection Act. They will be kept secure and not released to any third party. All data will be destroyed once the project is

complete. By Clicking on 'Yes you agree to take part' indicates that you understand the purpose of the research, as explained, and accept the conditions for handling the data you provide.

Yes, I am willing to take part in this research, and I give my permission for the data to be collected and to be used in an anonymous form in any written reports, presentations and published papers relating to this study. (1)

No, I am not willing to take part in this research. (2)

End of ConsentPage

CONDITION	f('consent')==2'	
	true	false
	Question ()	

STOP	Complete – Thank you for your time.	
	<i>Thank you for your time. You will now be redirected to the Open University website.</i>	

END	Condition f('consent')==2'
-----	----------------------------

CONDITION	f('consent')==1'	
	true	false
	Question ()	

i1 - Part A

Part A of this questionnaire is about the type of online learning you have participated in. As you are aware this survey is being sent to you in an attempt to capture the development of student online learning on the course you are currently studying. The questionnaire is largely seeking information about the use of tutor group forums; however it would be helpful to know which type of online learning and tutorial support students have engaged in.

q1 - Which online learning you participated in

Please indicate which of the following online learning you participated in during your study of DSE212.

(Please select all that apply)

Asynchronous: You obtained tutorial materials/exchanged messages online (1)

Synchronous: You participated in 'Elluminate' discussion in real time (2)

Regional cluster group forums (3)
 Face to face tutorial (4)
 Face book: (not official Open University provision) (5)
 Other; (e.g. Twitter, MSN,), please specify: (6)_____

i2 - Intro

This questionnaire is about your personal experience of studying module DSE212 in 2011/12. When making your responses, please think about your experience of the course as a whole rather than about individual units, topics or tutors. In thinking about your relationships with your tutors, think about tutorial contacts of all kinds (face to face, phone calls, electronic mail, computer conferencing). Your responses will be kept strictly confidential and will not be seen by any of the course team members or tutorial staff. Please show whether you agree or disagree with each of the statements listed below. The statements relate to general issues about your course and are based on comments that students have often made about their experiences of teaching and studying at university. You may find that some of the statements are not appropriate for you for one reason or another, in which case you should choose 3 ('Not sure').

q2 - Agree or Disagree to the following statements?

Please indicate whether you agree or disagree with each of the statements listed below. 5 means you definitely agree 4 means that you agree, but with reservations 3 means that you are not sure, and should only be used if the statement doesn't apply to you or if you really find it impossible to give a definite answer 2 means that you disagree, but with reservations 1 means that you definitely disagree

(Please select one only in each row)

	5Definitely agree (5)	4Agree (4)	3Not sure (3)	2Disagree (2)	1Definitely disagree (1)
On DSE212, it is always easy to know the standard of work that is expected of you (1)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I gained confidence in computer-based interaction on DSE212 (2)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
There are few opportunities on DSE212 to choose the particular topics you want to study (3)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tutors on DSE212 motivate the students to do their best work (4)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The workload on DSE212 is too heavy (5)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The cluster group forums helped me to complete tutor marked assessment (TMAs) (6)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tutors on DSE212 often give the impression that they have nothing to learn from students (7)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	5Definitely agree (5)	4Agree (4)	3Not sure (3)	2Disagree (2)	1Definitely disagree (1)
You usually have a clear idea of where you are going and what is expected of you on DSE212 (8)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tutors on DSE212 give a lot of time to commenting on students' work (9)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
To do well on DSE212 all you really need is a good memory (10)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
There was insufficient time for participation in cluster group forums on DSE212 (11)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The group forums did not help to develop academic skills on DSE212 (12)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The academic benefits of participation in groups forums was made clear to us on DSE212 (13)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
On DSE212, the syllabus tries to cover too many topics (14)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
DSE212 encouraged me to develop my own academic interests as far as possible (15)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Students have a great deal of choice over how they go about learning on DSE212 (16)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Assessment on DSE212 seems more to do with testing what you've memorised than with testing what you've understood (17)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
It's often hard to discover what's expected of you on DSE212 (18)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Students are generally given enough time to understand the things that they have to learn on DSE212 (19)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	5 Definitely agree (5)	4 Agree (4)	3 Not sure (3)	2 Disagree (2)	1 Definitely disagree (1)
Tutors make a real effort to understand the difficulties that DSE212 students may be having with their work (20)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The students on DSE212 are given a lot of choice in the work they have to do (21)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tutors on DSE212 normally give helpful feedback on how well you are doing (22)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The teaching materials for DSE212 are extremely good at explaining things (23)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The aims and objectives of DSE212 are not made very clear (24)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The teaching materials for DSE212 really try to make topics interesting to students (25)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Too many assignments on DSE212 ask questions that are just about facts (26)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
There is a lot of pressure on you as a student taking DSE212 (27)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I lack confidence in contributing to online discussion about academic theory on DSE212 (28)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
On DSE212, feedback on students' work is usually only provided in the form of marks or grades (29)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I have often discussed with my tutors how I was going to learn in DSE212 (30)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	5Definitely agree (5)	4Agree (4)	3Not sure (3)	2Disagree (2)	1Definitely disagree (1)
Tutors on DSE212 show no interest in what students have to say (31)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
It would be possible to get through DSE212 just by working hard around exam time (32)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The course DSE212 really tries to get the best out of all the students (33)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
There is very little choice in DSE212 on how you are assessed (34)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tutors on DSE212 make clear right from the start what they expect from students (35)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The sheer volume of work to be got through in DSE212 means that you can't comprehend it all thoroughly (36)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
In general, I am satisfied with the quality of DSE212 (37)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

i3 – Part B

Part B of this questionnaire offers you an opportunity to provide any further points you wish to make about your experience of online learning, particularly tutor-based wikis or forums.

q3 - Any other comments

Any other comments?

Please comment here:

And finally,...

q12 - Would you take part in a follow up?

If you would like to offer further comments or views on the development of the research in the area of tutor wikis and forums within the Open University, you are invited to participate in a telephone

interview timed for no more than 20 minutes. If you supply your contact details, I will contact you to arrange a mutually agreed time and provide you with a consent form.

(Please select one only)

Yes, I would like to take part in further research (1)

No, I would not like to take part in further research (2)

CONDITION	f('q12')==1'	
	true	false
	Question q12a(Please provide your contact details.)	

q12a - Please provide your contact details.

Please provide your contact details:

Name: (1)

Email address: (2)

Telephone number: (3)

Please indicate your preferred time of day for telephone contact, e.g. Morning or Afternoon, or Both: (4)

Please indicate your preferred day(s) for contacting you by telephone, e.g. Mon, Tues, Weds, Thurs, Fri, or All: (5)

END	Condition f('q12')==1'
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END	Condition f('consent')==1'
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STOP	Complete – You've now successfully reached the end of the survey
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STOP	<i>You've now successfully reached the end of the survey. Thank you very much for your feedback. You will now be redirected to the Open University website.</i>
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Appendix 2 Scale items of the CEQ modified

Course Experience Questionnaire Scale items based on a modified version of Lawless et al. (2004).

Good Tutoring (GT) (6 items)

Tutors on _____ motivate the students to do their best work (Q4)

Tutors on _____ give a lot of time to commenting on students' work (Q9)

Tutors make a real effort to understand the difficulties that _____ students may be having with their work (Q20)

Tutors on _____ normally give helpful feedback on how well you are doing (Q22)

Tutors on _____ show no interest in what students have to say (Q31)

Tutors on _____ make it clear right from the start what they expect from students (Q35)

Good Materials (GM) (2 items)

The teaching materials for _____ are extremely good at explaining things (Q23)

The teaching materials for _____ really try to make the topic interesting (Q25)

(Module) _____ really tries to get the best out of all students (Q33)

Clear goals and standards (CG) (4 items)

On _____ it is always easy to know the standard of work that is expected of you (Q1)

You usually have a clear idea of where you are going and what is expected of you on _____ (Q8)

It's often hard to discover what's expected of you on _____ (Q18)

The aims and objectives of _____ are not made very clear (Q24)

Online Skills (OS) (6 items)

I gained confidence in computer-based interaction on _____ (Q2)

The cluster group forums helped me to complete tutor marks assessment on _____ (Q6)

There was insufficient time for participation in cluster groups forums on _____ (Q11)

The academic benefits of participating in cluster group forums was made clear to us (Q13)

I lack confidence in contributing to online discussion about academic theory on _____ (Q31)

The cluster group forums did not help to develop academic skills on _____ (Q12)

Appropriate Assessment Scale AS (6 items)

Tutors on _____ often give the impression that they have nothing to learn from students (Q7)

To do well on _____ all you really need is a good memory (Q10)

Assessment on _____ seems more to do with testing what you've memorised than with testing what you've understood (Q17)

Too many assignments on _____ ask questions that are just about facts (Q26)

On _____ feedback on students' work is usually only provided in the form of marks or grades (Q29)

It would be possible to get through _____ just by working hard around exam time (Q32)

Appropriate Workload (AW) (5 items)

The workload on _____ is too heavy (Q5)

On _____, the syllabus tries to cover too many topics (Q14)

There is a lot of pressure on you as a student taking _____ (Q27)

The sheer volume of work to be got through in _____ means that you can't comprehend it all thoroughly (Q36)

Students are generally given enough time to understand the things they must learn on ____ (Q19)

Emphasis on Independence (IN) (6 items)

There are few opportunities on _____ to choose the particular topics you want to study (Q3)

_____ encouraged me to develop my own academic interests as far as possible (Q15)

Students have a great deal of choice over how they go about learning on _____ (Q16)

The students on _____ are given a lot of choice in the work they have to do (Q21)

I have often discussed with my tutors how I was going to learn on _____ (Q30)

There is very little choice in _____ on how you are assessed (Q34)

Appendix 3 Research Approval



From Dr Duncan Banks
Chair, The Open University Human Research Ethics Committee
Email d.banks@open.ac.uk
Extension 59198

To Valerie Bentinck, IET
Subject *"An investigation into improving engagement in online learning."*
Ref HREC/2012/#1190/1
Red form
Submitted 22 May 2012
Date 28 May 2012

Memorandum

This memorandum is to confirm that the research protocol for the above-named research project, as submitted for ethics review, is approved by the Open University Human Research Ethics Committee by Chair's action.

Please make sure that any question(s) relating to your application and approval are sent to Research-REC-Review@open.ac.uk quoting the HREC reference number. We will endeavour to respond as quickly as possible so that your research is not delayed in any way.

At the conclusion of your project, by the date that you stated in your application, the Committee would like to receive a summary report on the progress of this project, any ethical issues that have arisen and how they have been dealt with.

Regards,

Dr Duncan Banks
Chair OU HREC

Appendix 4 Permission to use CEQ Ramsden (1991).

Hi Valerie

I'm happy for you to use the SEQ and modify it in any way. It is not copyrighted.

Good luck and best wishes

Paul

Paul Ramsden

Key Associate, Phillips KPA

Visiting Professor, Institute of Education, University of London

Adjunct Professor, Macquarie University

www.paulramsden48.wordpress.com

www.phillipskpa.com.au

Appendix 5 50 Codes forming Initial Coding

ED209	DSE212
<p>Emphasis on outcome--based assessment</p> <p>Good quality tutoring</p> <p>Positive organisation of forums; general and specific on ED209</p> <p>Quick responses to requests on forums</p> <p>Skill in directing forum threads – positive ED209</p> <p>Wisely shaped feedback on threads</p> <p>Inaccurate postings from students</p> <p>Lack of monitoring of asynchronous threads</p> <p>Excellent course and materials</p> <p>Deep dissatisfaction with issues arising from last minute changes to exam on ED209</p> <p>Honesty on forums regarding exam – positive route for expression</p> <p>Tutor challenged thinking</p> <p>‘Panic’ on forums</p> <p>Online discussion/Elluminate never seemed to work</p> <p>Software layout and entry system confusing, needs more investment</p> <p>Forums could be used in better way</p> <p>Expert tutors but did not disseminate knowledge</p> <p>Lack of OU control of bragging/boasting by students on forums</p> <p>Tutor group forums the most useful – posting of material</p> <p>Lack of consistency in information from different tutors</p> <p>Greater participation from tutors on forums</p> <p>Lack of academic discussion on forums – mainly information seeking</p> <p>Tutor forums slow compared to Facebook -latter can be viewed on phone</p> <p>Own tutor group rarely used within group</p> <p>Didn’t know there was online learning e.g Elluminate</p> <p>Course overload</p> <p>Believe in autonomous learning -forums a distraction</p> <p>Forums dead – enjoyed direct contact with tutor by e-mail – most useful</p> <p>Assigned to Elluminate group but did not participate as I enjoy face-to-face tutorials</p> <p>Highly interactive and supportive tutor</p> <p>Tutor forums good for clarification and materials if F-2-F missed</p> <p>No opportunity to participate in tutor forums or wikis – huge disadvantage on this module</p> <p>Poor response to grade appeals very unsettling</p>	<p>Student choice to participate or not affects student learning</p> <p>Student choice in where to interact</p> <p>Experience in group learning – fun v procrastination</p> <p>Peer interaction Skype or self-help very beneficial</p> <p>Too many course discussions now on Facebook</p> <p>Too busy for forums, very pleased with results</p> <p>Cluster forums overwhelming – students go off on tangents</p> <p>Most valuable resource – tutor</p> <p>Totally voyeurism with regards to forum messages</p> <p>Lot of pressure but course supports well</p> <p>Elluminate a waste of time – not taken seriously by tutors or students</p> <p>Elluminate great potential but technically problematic</p> <p>Time waste of trawling forums for relevant information</p> <p>I attended almost all-day schools and F-2-F, didn’t use online</p> <p>Good course and resources such as EPOCH, more needed such as You Tube</p> <p>Need all time to read, questions if any added value from online</p> <p>Better feedback mechanism on tutors -some are good some quite poor</p> <p>Forums useful addition to other resources</p> <p>Interactive tutorials (live) helpful.</p> <p>Choice in participation – doesn’t need online to achieve</p> <p>Autonomy in learning</p> <p>Access relating to time constraints</p> <p>Positive outcomes for learning Psychology -excellent</p> <p>Lack of people interacting on online forums</p> <p>OU not got it quite right on forums - quite dull</p> <p>Lacked input from students or tutors on forums</p> <p>No traffic in tutor or cluster forums</p> <p>Time management – tended to be passive rather than active</p> <p>Limited access to internet due to status I don’t like the fact that access to internet is taken for granted</p> <p>F-2-F cannot be beaten</p> <p>First come first served basis for Elluminate meant not all could participate even if they wanted to</p> <p>Full module content felt rushed</p> <p>Lack of participant due to feeling ‘thick’ or incompetent in front of others</p> <p>Prefer forums to live – time to read other’s comments, reflect, flexibility in timing and physical presence</p>

<p>Wide variation in tutoring quality</p> <p>Forums good social network but information confusing</p> <p>Course inappropriate for Early Years Students due to lack of underpinning Psychology</p> <p>Inevitability of low human contact if Distance learning chosen</p> <p>‘Mob’ attitude on forum regarding examination</p> <p>Course did not suit my understanding or style of learning so withdraw</p> <p>Forums flicked through but never derived benefit</p> <p>Official OU forum intimidating and sterile</p> <p>Forums useful</p>	<p>Smaller allocated groups needed for live discussion</p> <p>Course structure good so you can find all answers, no need for forums etc.</p> <p>Aims of degree are confused but format of online study fantastic and helpful</p> <p>Cluster forums not really used in my group</p> <p>Tutors should focus on encouraging academic debates about course materials – happened online but not F2F</p> <p>Not sure what online cluster group was</p> <p>Assumptions made about which type of student will engage where – young not all able or interested</p> <p>Scaremongering, flaming a problem on FB and some OU forums</p>
--	---

Appendix 6 Codes Underpinning Candidate Themes

Student Preference in Learning

Student choice to participate or not affects student learning
Student choice in where to interact with media
Student choice in course resources and tutor engagement
Experience in group learning – fun v procrastination
Peer interaction Skype or self-help very beneficial
Interactive tutorials (live) helpful.
Choice in participation – doesn't need online to achieve
Autonomy in learning
Access relating to time constraints
Positive outcomes for learning Psychology
Preference in online learning dictated by personal circumstances
Choice in how assessed and type of assessment
Good and consistent tutoring experiences
Size of group – small or large preferences
Opportunity to develop skills needed for collaborative learning
Assistance with developing skills for online work
Availability of tutorial materials post-tutorial
Clear and fair systems of course management and organisation

Joys of blended learning

Peer interaction in online learning overcomes isolation
Social and academic support from OU and FB
Opportunity to overcome barriers to learning by disability
Flexibility in time to engage & reflect for asynchronous online learning
Opportunity to study at Distance – suits life patterns
Development of academic approaches in self
Quality of learning 'package' – encapsulated even without online
Working with positive and enabling tutors
The topic area of Psychology
Good course outcomes
Course highly enjoyable
Forums provide an vehicle for honest feedback on experiences

Risks and disappointment

Facebook as a source of support or discomfort

Impact on learning of other students behaviour

Need for volume of students in asynchronous activity

Preference for lone working

Variation in skills and knowledge of tutors

Variation in willingness of students and tutors to engage online

Variation in tutor feedback and tutor-student relationship

Lack of clarity - how to access to online materials

Need to book Elluminate problematic

Elluminate erratic or poor learning experience

Access to internet due to social status

Feelings of exclusion due to social or physical problems

Technical capability of tutors to manage live sessions

Lack of confidence in speaking/interacting

Time invested in trying to engage in online not of value to learning

Confidence in writing/expressing thoughts

Lack of understanding of purpose of online activity

Pace of response to online queries

Too many course discussions now on FB – exclusion, dangerous threat to study

Too much to manage

Appendix 7 Example of collaborate task (permission granted by team DE200)

TMA 15 The assignment

Cut-off date: 3 April 2019

Important:

These pages provide guidance on how to write your assignment. Please ensure you read all of this information right through until the end.

Before you start work on this assignment, please ensure that you have read the [Assessment Guidance](#) specific to this module and are familiar with the advice in [Social Sciences Assessment Information](#). These sources contain support and guidance that you may need in writing your TMA, including, for example, advice on plagiarism, referencing and the marking system. Note that failure to comply with relevant guidance could result in the loss of marks or other penalties.

TMA 15 is compulsory. **You must pass this TMA in order to pass the module.**

TMA 16 is the resit option for those who fail to complete TMA 15. The assignment is identical to TMA 15. TMA 16 opens immediately after TMA 15 closes.

Collaborative activity

- **Step 1:** Summarise the following piece of research: [Watching box sets with your partner can benefit your relationship, claim researchers.](#)
Character limit: 140 characters
- **Step 2:** Suggest how the research could be improved.
Character limit: 140 characters
- **Step 3:** Post your suggestion (from Step 2) to the group activity page for this TMA.
- **Step 4:** **Discuss all the suggestions with your group in the relevant thread in your cluster forum.** Your tutor will select three options and you should vote for the suggestion you think should be carried forward.
- **Step 5:** Write a short explanation of how the improvement that received the most votes could be implemented.
Word limit: 150 words
- **Step 6:** Based on your experience, write a piece of advice you would give to another group of students undertaking this activity.
Word limit: 100 words

You can compile your responses to Steps 1–6 in the provided form ([PDF](#) or [DOC](#) whichever you prefer), which you will submit as your TMA. Please note that the PDF document will not work if used in a web browser. Please use Adobe or similar for this format. These forms will be available from the Assessment tab soon.

In the following pages, you will find:

- learning outcomes addressed by this assignment
- student notes for each part of this assignment.

Tutor feedback

Before submitting your TMA, consider if there are any areas or aspects for which you would particularly like to receive feedback. Add this as a note at the beginning of your TMA so your tutor has the opportunity to focus their comments around your concerns. Your tutor will continue to provide standard feedback too.

Appendix 8 Weller et al.'s (2018) ICEBERG model

Seven design principles of designing for retentions (ICEBERG model). Can be used as a checklist for tutors to assess curriculum design, shape in delivery, feedback to team.

Features of ICEBERG	Course design features: are they present?
Integration	<p>Is constructive alignment present between learning outcomes, assessments, activities and support materials which all contribute effectively to helping students to pass the course.</p> <p>☐☐Where possible minimise usage complexity caused by things like media switching and having to search for various resources on the curriculum, which tends to increase cognitive overhead for students and associated increases in perceived workload</p> <p>☐☐Design for constructive alignment between learning outcomes, assessment and learning activities and materials where each element clearly links to and builds on the other elements</p> <p>☐☐Ensure that skills development is well-integrated and contextual to the rest of the materials</p>
Collaboration	<p>Where appropriate, incorporate meaningful opportunities for collaboration between students and build the skills and confidence to engage with these</p> <p>☐☐Facilitate the development of a supportive community of learners by setting clear ground rules and encouraging student participation in communicative activities</p> <p>☐☐Ensure that collaborative activities are well-structured and avoid potential frustration of students due to others not participating or studying at different paces</p>
Engaging	<p>Build in variety of different types of activities to keep students engaged</p> <p>☐☐Make the academic team visible to students and give them the sense of connection with the academic voice behind the curriculum</p> <p>☐☐Make sure that learning materials and activities are aligned with students' educational and career aspirations</p> <p>☐☐Ensure that the tone of the curriculum is enthusiastic, engaging and positive and supportive of the idea of students as self-directed, autonomous learners</p>
Balanced	<p>Ensure that the workload in each week is manageable for students</p> <p>☐☐Keep the workload distribution even across the study pathway</p> <p>☐☐Build in effective study skills development like planning and organisation skills</p> <p>☐☐Ensure that students know on a week-by-week basis exactly what they are expected to do</p>

Economical	<ul style="list-style-type: none"> ☐☐ Effectively prioritise the key concepts and outcomes that the students need to achieve ☐☐ Make sure that what we write is clearly linked to the learning and assessment aims ☐☐ Ensure that we don't overwhelm students with a plethora of interesting facts, activities and case studies where these do not add to achieving the key learning outcomes
Reflective	<ul style="list-style-type: none"> ☐☐ Incorporate regular summaries in the learning journey ☐☐ Integrate formative and self-assessment opportunities into the curriculum ☐☐ Build in sufficient time for revision and reflection before assessment points ☐☐ Build in time and space for student reflection and self-directed learning